General Catalogue 4th Edition

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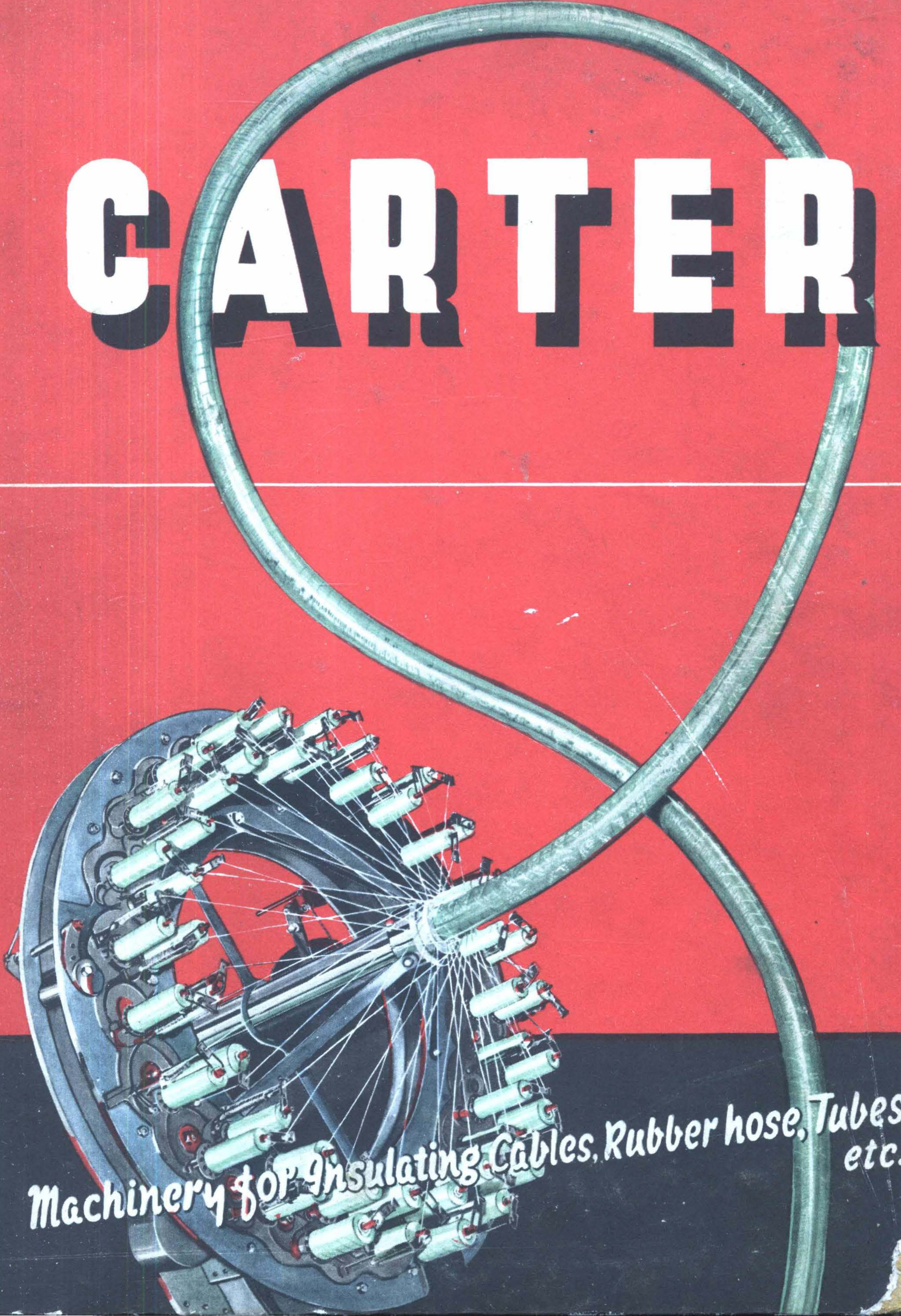

Machinery for Insulating Cables, Rubber hose, Tubes etc.,

FOR THE ATTENTION OF:-

MESSRS. Wm Paton Ltd. 13-6-46.

WITH COMPLIMENTS

4M/5/46T

CARTER

Machinery

CODES:
A.B.C. (5TH, 6TH & 7TH EDITION);
BENTLEY'S PHRASE;
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B. C. & F. CARTER & COMPANY, LTD.

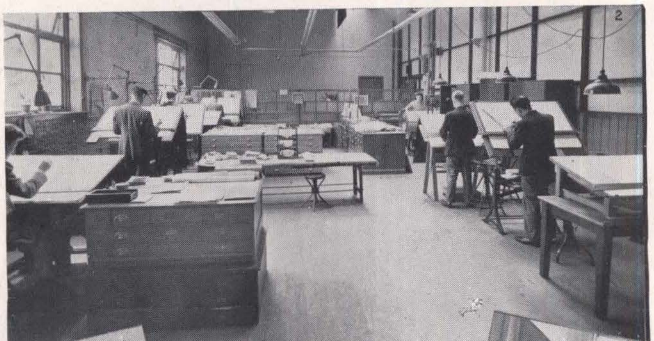
Albion Works WATERLOO ST, BOLTON, ENGLAND.

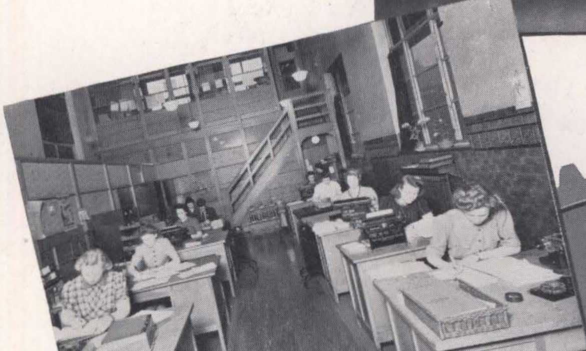
CONTRACTORS TO ADMIRALTY, WAR OFFICE, AIR MINISTRY, DOMINION & COLONIAL GOVT., INDIA OFFICE, U.S.S.R., AND GOVT. OF CHINA.

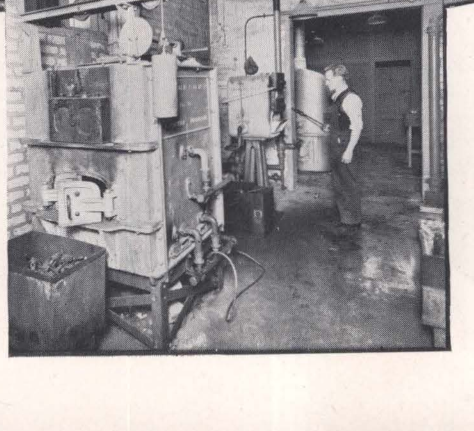
TELEGRAMS: "BRAIDERS" BOLTON

TELEPHONE No. BOLTON 4344 (3 LINES)

Views of Works

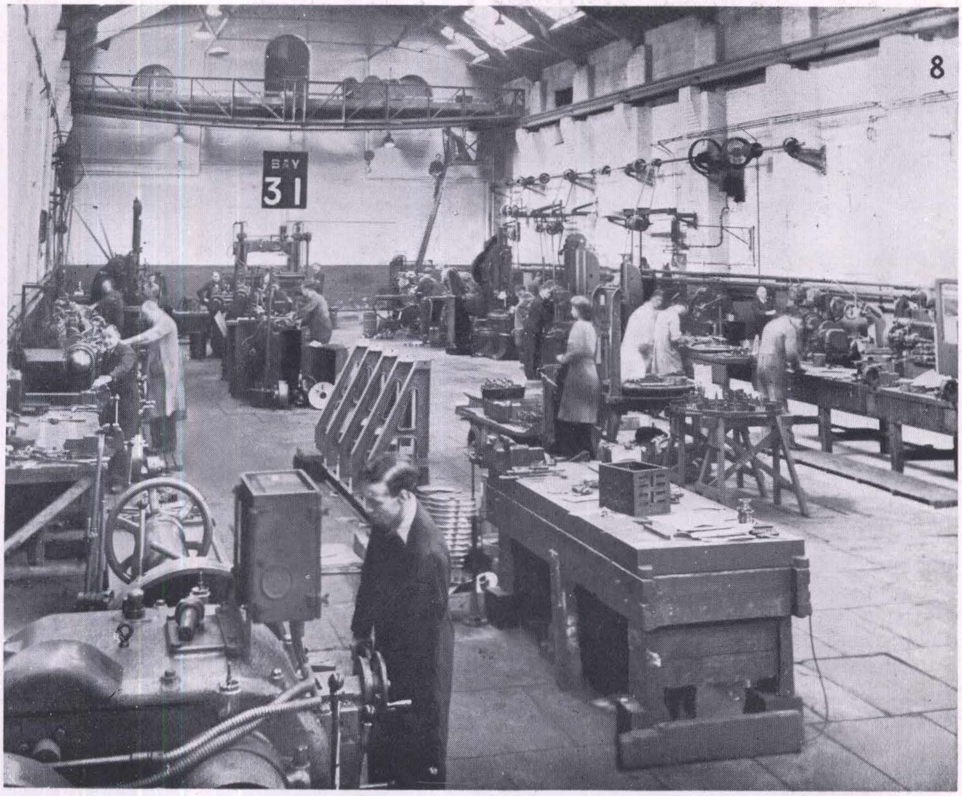




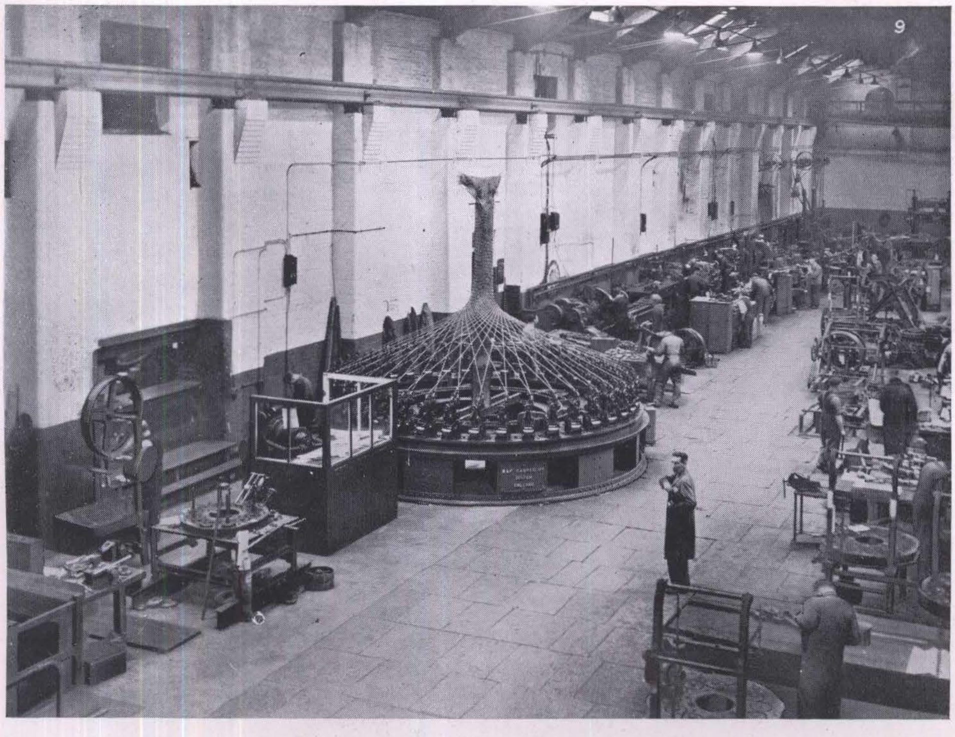


1. General Office.
2. Drawing Office.
3. Capstan and Turret Department.
4. General Stores.
5. Inspection Department.
6. Tool Room.
7. Hardening Department.

Views of Works



No. 8. General Machine Section



No. 9. Assembly and Machine Section

Manufacturers of

BRAIDING MACHINES of all Types and MACHINES of SPECIAL CONSTRUCTION for the manufacture of Electric Cables, High Pressure, Garden Suction, Hose, Steam Packings, Log Lines, Solid Cords, Blind and Picture Cords, Spindle Banding, Silk and Cotton Shoe Laces, Sash Cords.

Some idea of the range of our Manufactures is given below :—

Electric Cable-Making Machinery

Braiding Machines, for tarred Hemp, Jute or Cotton Yarn.
Braiding Machines, for High-tensile Steel, Copper or Brass Wire.
" Braidex " Patent Two-way, Core Covering Machine for V.I.R., Aerial, and other cables.
Tinning and Galvanising Plants, for Wire, Cable Impregnation Compounding Plants.
Wire Bunching Machines. Wire Winding and Twisting Machines.
Wire Stranding Machines. Wire Twinning Machines.
Cotton-covering Machines for Wires.
Rubber and Paper-Lapping Machines, Taping Machines.
Cable Measuring Machines of various types. Coiling and Reeling Machines.
Measuring, Stamping and Cutting-off Machines for cables.
Continuous Marking Machines for Rubber-covered or Wrapped Electric Cables.
Plaiting Machines for Telephone Cords.

Rubber Hose-Making Machinery

Braiding Machines for Cotton Yarn, and Linen Thread, for all types of Garden, Suction and High-pressure Hose.
Braiding Machines for High-tensile Steel, Brass or Copper Wire, for High-pressure Grease Hose, Hydraulic Hose, Compressed Air Hose, Steam Hose, etc.
Braiding Machines for Polished Yarn for the manufacture of Vacuum Cleaner Tubes, etc.
Braiding Machines for the manufacture of Motor-car Tyre Wire Bead Reinforcement.
Paper or Hessian Wrapping Machines for Motor-car Tyres, Coils, etc.
Air-brake Hose-making Machinery for the manufacture of Railway Carriage, Steam-heater Tubes, Hot-water Tubes, Air Brakes, Vacuum Brakes and Motor-car Radiator Couplings, etc.
Drum-wrapping Machines for preparing Sheet Rubber Insertion for Vulcanising.
Rubber Spreading Machines for cloth proofing.
Wire Coiling and Armouring, and Stringing Machines for Rubber Hose, and Vacuum Cleaner Tubes.

Aircraft Components

Machines of special construction for the manufacture of Aircraft Components, such as Screening Tubing for Cables, Hose or Tubing for Crash Fire Tenders, Speaking Tubes, Flexible Fuel Tubing, Gun-firing Hose, Compressed Air Hose, High-pressure Grease Tubing, Hose for Hydraulic Lifts for Under-carriages, Hydraulic Brake-tubing, etc.

Asbestos Machinery

Asbestos Rope Lagging Machine.
Braiding and Plaiting Machines for Dry or Greasy Packings, Steam and Hydraulic.
Braiding Machines for Soapstone Packings.
Braiding Machines for Asbestos Sliver.
Steam or Water-jacketed Grease Tanks, Rope Twisting Machines.
Forming Machines for forming Packings into Square or Rectangular Form.
Marking Machines for the continuous printing of Brake-lining, Belting, Segments, etc.

Electrode Machinery

Plants for the continuous manufacture of Wrapped or Braided Electrodes for Electric Welding.

Miscellaneous

Hair-picking and Cotton-wrapping Machines for the manufacture of Horse-hair Thread.
Cloth Perching, Rolling and Measuring Machines.
Cotton and Wire-winding Machines and Creels, Winding and Coiling Machines, Coiling Drums, Cable Reels or Drums, Drum-stands, Wire Swifts, etc., etc., for various purposes.

Complete Index, see page 112

Fabricants de

MACHINES A CABLER de tous genres et MACHINES DE CONSTRUCTION SPECIALE pour la fabrication de cables électriques, tuyaux à haute pression, tuyaux d'arrosage, tuyaux d'aspiration, bourrelets pour machines a vapeur, lignes de Loch, cordes solides, cordes pour stores et tableaux, lacets pour entourer les fuseaux, lacets de souliers en soie et en coton, cordes pour chassis à coulisse.

Machines pour la Fabrication des Cables Electriques

Machines à cabler pour fils de chanvre, jute ou coton goudronnés.

Machines à cabler pour fils d'acier à haute résistance, de cuivre ou de laiton.

Machines " Braidex " brevetées a double mécanisme, pour recouvrir l'âme des cables de caoutchouc vulcanisé, des autennes de T.S.F. et autres cables.

Machines à étamer et à galvaniser des fils de métal. Machines à preparer le bitume pour imprégner les cables.

Machines pour faire des faisceaux de fils de métal. Machines à bobiner et à retordre les fils de métal.

Machines à faire des torons de fils de métal. Machines à doubler les fils métalliques.

Machines à recouvrir les cables électriques de caoutchouc ou de papier. Machines à recouvrir les cables etc. de ruban isolant.

Machines pour recouvrir les fils métalliques avec du caoutchouc ou du papier. Machines pour entourer de lacet.

Machines à mesurer les cables de divers genres. Machines à enrouler et à bobiner.

Machines à mesurer, estampiller et tronçonner les cables.

Machines à mouvement continu pour marquer les cables électriques recouverts de caoutchouc.

Machines à tresser les cables téléphoniques.

Machines à Fabriquer Les Tuyaux en Caoutchouc

Machines à cabler pour fil de coton et de lin, pour tous genres de tuyaux d'arrosage, toyaux d'aspiration et tuyaux à haute pression.

Machines à cabler pour fils d'acier à haute résistance.

Machines à cabler pour fils vernissés pour la fabrication de tuyaux d'aspirateurs par le vide, etc.

Machines à cabler pour la fabrication de fils métalliques pour renforcer les pneus d'automobiles.

Machines pour envelopper les pneus d'automobiles, les serpentins, etc., avec du papier ou de la toile de jute.

Machines pour la fabrication des tuyaux de freins pneumatiques pour wagons de chemins de fer, des tubes de chauffage à vapeur, des tubes à eau chaude, des freins pneumatiques, des freins à vide, et d'accouplements pour radiateurs d'automobiles, etc.

Machines à envelopper à tambours pour la préparation à feuilles de caoutchouc devant servir à la vulcanisation.

Machines à étendre le caoutchouc pour impermèabliser les étoffes.

Machines à enrouler et à renforcer de fils métalliques et de cordes les tuyaux de caoutchouc et les tubes d'aspirateurs par le vide.

Pièces d'Avions

Machines de construction spéciale pour la fabrication de pièces d'avions, telles que des tubes gaines pour cables, des tuyaux ou tubes pour les camions extincteurs de secours, des cordons acoustiques, des tubes flexibles pour l'alimentation en essence, tuyaux pour le tir des canons, tuyaux à air comprimé, tuyaux à graisser à haute pression, tuyaux pour rétracteur hydraulique du train d'attérrissage, tubes pour freins hydrauliques, etc.

Machines pour le Travail de l'Asbeste

Machines à faire les cordes d'asbeste pour revêtement isolant.

Machines à cabler et à tresser pour garnitures sèches ou grasses pour le vapeur ou l'eau.

Machines à tresser l'amiante.

Machines à cabler pour garnitures de stéalite.

Machines à cabler pour éclats d'asbeste.

Réservoirs de graissage chemise pour le chauffage à l'eau chaude ou à la vapeur. Machines à retordre les cordes.

Machines à fabriquer les garnitures carrées ou rectangulaires.

Machines à estampiller pour l'impression continue des doublures de freins, des courroies, des segments, etc.

Machines à Electrodes

Machines pour la fabrication continue d'électrodes enveloppés ou recouverts de tresses pour la soudure électrique.

Divers

Machines à trier les crins et à les entourer de coton pour la fabrication des fils de crin.

Machines pour plier les étoffes en double largeur, les rouler et les mesurer.

Machines à bobiner les fils de coton et les fils métalliques, machines à bobiner et à enrouler, tambours à enrouler, bobines et tambours pour cables, porte-tambours, dévidoirs pour fils métalliques, etc., etc., pour divers usages.

Pour index complet, voir page 118

Fabricantes de

MAQUINAS DE TRENZAR de todo tipo y MAQUINAS DE CONSTRUCCION ESPECIAL para la manufactura de Cables Electricos, Mangueras de Aspiración, de Alta Presión y para Jardin, Empaquetaduras a Vapor, Correderas, Cuerdas para Persianas y para Cuadros, Bandas para Husillos, Cordones de Seda y Algodón para Calzado, Cuerdas para marcos de ventanas.

A continuación damos una idea de la variedad de nuestras manufacturas :—

Maquinaria para Hacer Cables Electricos

Máquinas de Trenzar para yute, hilaza de algodón, o cañamo alquitranado.
Máquinas de Trenzar para alambre de latón, de cobre o de acero de alta resistencia.
Máquina " Braidex " patentada de doble vía para Revestir Animas de Cables de caucho vulcanizado, Aéreos y de otros tipos.
Instalaciones para Estañar y galvanizar, para Alambre. Instalaciones asfaltadoras para impregnar Cables.
Máquinas agrupadoras de alambres. Máquinas para Enrrollar y Retorcer Alambre.
Máquinas Trenzadoras de Alambres. Máquinas dobladoras de Alambres.
Máquinas de revestir alambres con algodón.
Máquinas de Traslapar para Caucho y Papel. Máquinas de Encintar.
Máquinas medidoras de cables de varios tipos. Máquinas para enrrollar en Rollos y en Carretes.
Máquinas para medir, estampar y tronchar Cables.
Máquinas de marcado contínuo para Cables electricos revestidos o envueltos en caucho.
Máquinas trenzadoras para Cuerdas de teléfono.

Maquinaria para Hacer Mangueras de Caucho

Máquinas de Trenzar para Hilaza de algodón e hilo de lino para toda clase de Mangueras para Jardín, de Alta presión y de Aspiración.
Máquinas de Trenzar para Alambre de Cobre, de Latón o de Acero de alta resistencia para Mangueras de alta presión para Grasa, Hidraulicas, Aire Comprimido, Vapor, etc.
Máquinas de Trenzar para hilaza pulida para la manufactura de tubos para Limpiadores de vacío, etc.
Máquinas de Trenzar para la manufactura del refuerzo de alambre en el talon de neumaticos de automóviles.
Máquinas de Envolver de Papel o de tela de yute los neumaticos de automóviles, Rollos, etc.
Máquinas para hacer Mangueras de Frenos de aire para Vagones de ferrocarril, Tubos de calefacción a Vapor, Frenos de aire, Frenos al vacío y Acoplamientos para Radiadores de automóviles, etc.
Máquinas de Envolver en Tambores para preparer Hojas de caucho de intercalación para vulcanizar.
Máquinas de Esparcir caucho para la impermeabilización de tejidos.

Piezas Componentes para Aparatos de Aviacion

Máquinas de construcción especial para la manufactura de Piezas componentes para Aparatos de aviación, tales como Tubería de envainar Cables, Manguera o Tubería para Motobombas para aparatos accidentados, Tubos acusticos, Tubería flexible para carburantes, Manguera para el disparo de ametralladoras, Manguera de aire comprimido, Manguera de alta presión para grasa, Manguera para Ascensores hidráulicos para trenes de aterrizaje, Tuberia para frenos hidráulicos, etc.

Maquinaria para Amianto

Máquinas para hacer Cordel de amianto para revestimiento aislante.
Máquinas de Trenzar y Plegar para Empaquetaduras Secas o de Grasa, de Vapor e Hidráulicas.
Máquinas de Trenzar para Empaquetaduras de esteatita.
Máquinas de Trenzar para Torzal de amianto.
Máquinas de Retorcer cordel para Tanques para grasa con camisa de calefacción por vapor o agua.
Máquinas Formadoras para formar Empaquetaduras en forma Cuadrada o Rectangular.
Máquinas de Marcar para la impresión contínua de Forros para Frenos, Correas de transmision, Segmentos, etc.

Maquinaria para Hacer Electrodes

Instalaciones para la manufactura continua de Electrodos revestidos o trenzados para la soldadura eléctrica.

Aparatos Diversos

Máquinas para Escardar crin y enrrollar algodón para la manufactura de Hebra de crin.
Máquinas para Perchar, Enrrollar y Medir tejidos.
Máquinas y carretes para enrrollar Algodón y Alambre, Máquinas de Retorcer y Enrrollar, Tambores de enrrollar, Carretes o Tambores para Cables, Soportes para Tambores, Devanaderas para alambre, etc., etc., para varios fines.

Indice completo véase página 128

ФИРМА ПРОИЗВОДИТ

ПЛЕТЕЛЬНЫЕ И ОПЛЕТОЧНЫЕ МАШИНЫ всех типов, а также МАШИНЫ СПЕЦИАЛЬНОЙ КОНСТРУКЦИИ для производства электрических кабелей, резиновых рукавов — напорных, поливочных и всасывающих, набивочных материалов для пара, лаг-линей, плетеных шнуров всевозможного назначения, плетеных лент для привода веретен, шелковых и хлопчатобумажных ботиночных шнурков и пр.

Нижеследующий перечень дает некоторое представление о нашей производственной номенклатуре :—

Оборудование для производства электрических кабелей

Оплеточные машины для просмоленной пеньковой, джутовой и хлопчатобумажной пряжи.

Оплеточные машины для стальной проволоки с высоким сопротивлением разрыву, медной и латунной проволоки.

Патентованные оплеточные машины „Braidex“ для двойной вязаной оплетки кабелей с резиновой изоляцией, воздушных и пр. кабелей.

Установки для лужения и цинкования проволоки. Установки для пропитки и компаундирования кабелей.

Машины для скручивания гибких проводов. Машины для намотки и скручивания проволоки. Крутильные машины для кабельных жил. Машины для сдваивания гибких проводов.

Машины для обмотки проволоки хлопчатобумажной пряжей.

Изолировочные машины для резиновой и бумажной изоляции. Обмоточные машины.

Машины для измерения кабелей всех типов. Машины для намотки бухт и катушек.

Машины для измерения, маркировки и разрезки кабелей.

Машины для непрерывной маркировки электрических кабелей с резиновой изоляцией или обмотанных кабелей.

Оплеточые машины для гибких телефонных шнуров.

Оборудование для производства резиновых рукавов

Оплеточые машины для оплетки хлопчатобумажной или льняной пряжей всех типов напорных, поливочных и всасывающих рукавов.

Оплеточные машины для оплетки стальной, медной или латунной проволокой тавотных трубок высокого давления, гидравлических рукавов, рукавов для сжатого воздуха, паровых шлангов и т.д.

Оплеточные машины для глянцевитой пряжи для производства гибких рукавов для пылесосов и т.п. целей.

Оплеточные машины для производства усиленной проволоки для покрышек автошин.

Оберточные машины для покрытия автошин, проволочных бухт и т.д.

Оборудование для производства резиновых рукавов для парового и водяного отопления, пневматических и вакуумных тормозов, соединительных рукавов для автомобильных радиаторов и т.п.

Барабанные оберточные машины для подготовки листовой резины к вулканицазии.

Машины для нанесения слоя резины на водонепроницаемые ткани.

Машины для проволочной обмотки и бронировки резиновых шлангов и рукавов для пылесосов.

Оборудование для производства деталей самолетов

Специальные машины для производства деталей самолетов, как-то : экранирующих оболочек для проводов, шлангов или рукавов для аварийных пожарных машин, разговорных трубок, гибких топливных трубок, гидравлических трубок для управления авиапушками, пневматических рукавов, тавотных трубок высокого давления, гидравлических рукавов для под'ема убирающихся шасси, трубок для гидравлических тормозов и пр.

Оборудование для асбестовых материалов

Плетельные машины для производства асбестового шнура.

Плетельные и оплеточные машины для сухих и просаленных паровых и гидравлических набивок.

Плетельные машины для производства тальковых набивок.

Плетельные машины для производства асбестовой тесьмы.

Котлы с паровыми или водяными рубашками для нагрева тавота. Машины для скрутки асбестовых шнуров.

Машины для прокатки набивок в квадратную или прямоугольную форму.

Машины для непрерывной маркировки тормозных подкладок, ремней, сегментов для тормозных лент и т.п.

Оборудование для электросварки

Установки для непрерывного производства плетеных или обмотанных электродных проводов для электросварки.

Разное оборудование

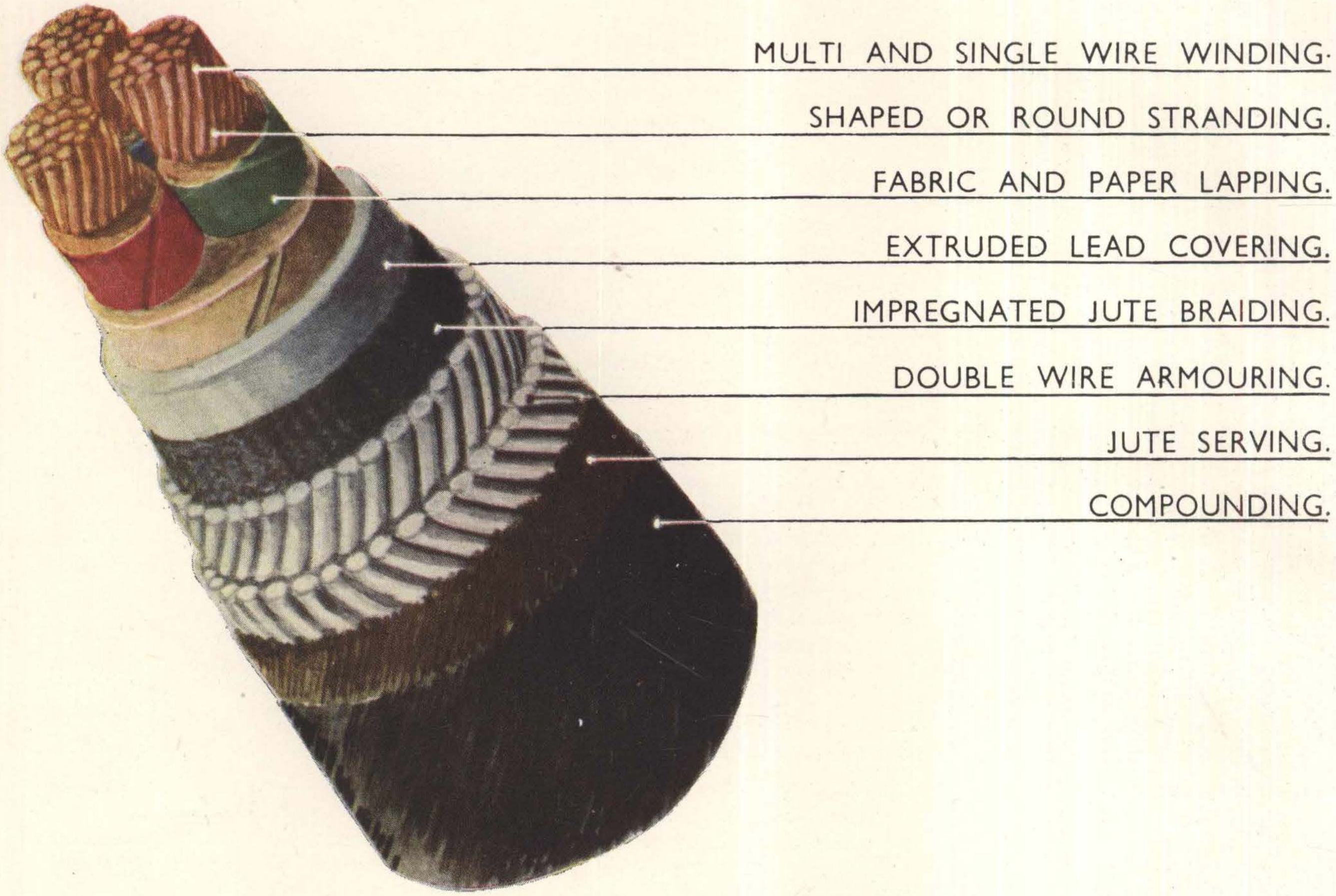
Машины для обмотки конского волоса хлопчатобумажной пряжей для приготовления основы портняжной волосяной ткани.

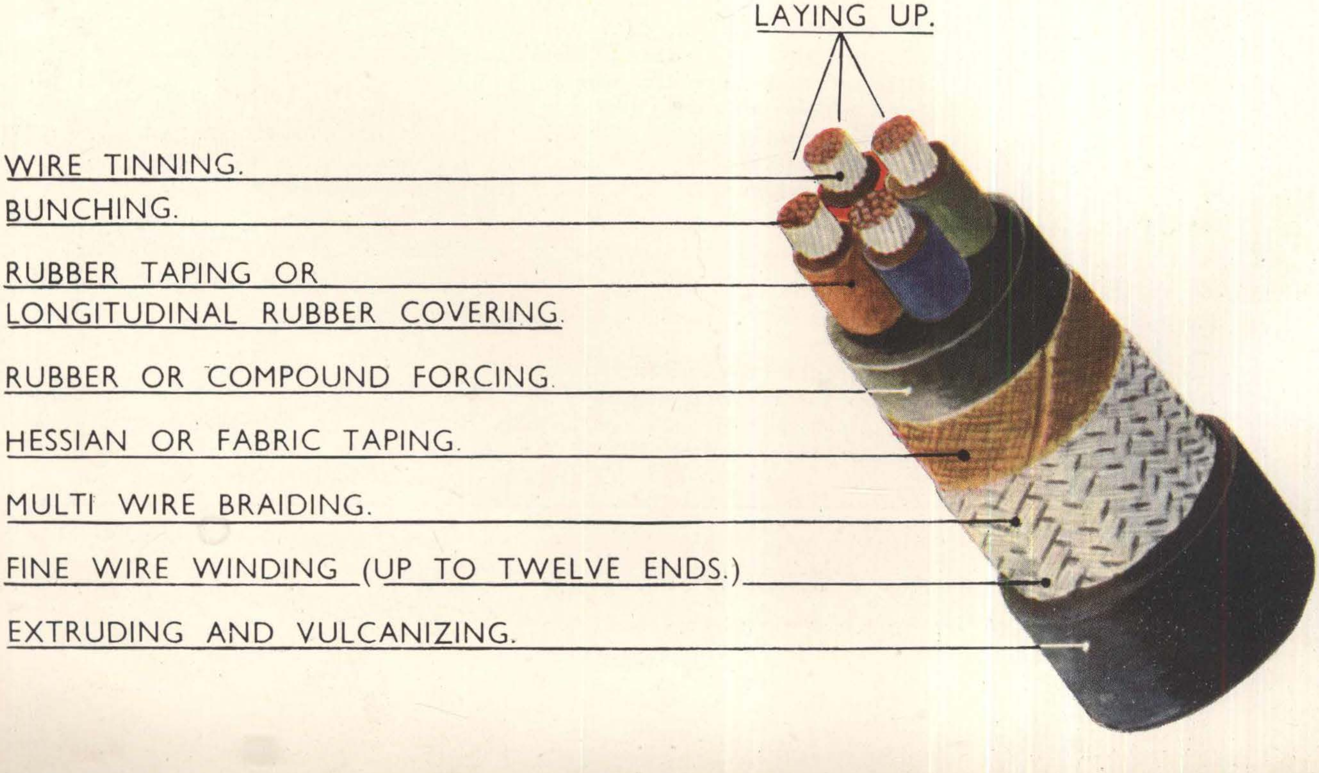
Машины для складывания, каландрирования и измерения тканей.

Машины и шпули для намотки проволоки и хлопчатобумажной пряжи. Машины для намотки бухт и барабанов. Барабаны для намотки бухт. Катушки и барабаны для кабелей. Подставки для барабанов. Стеллажй для катушек с проволокой для питания различных машин.

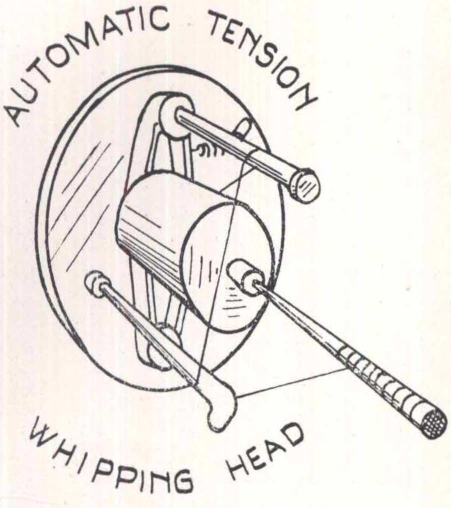
ПОЛНЫЙ ПЕРЕЧЕНЬ ДАН НА СТР. 122

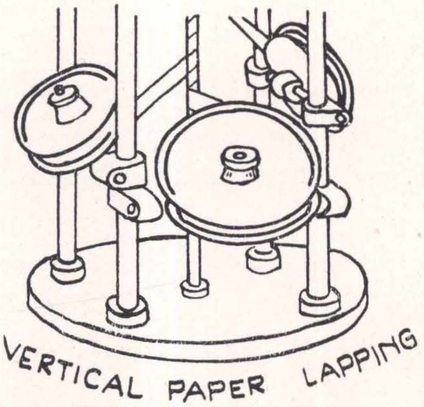
Various Stages in the Process of Cable Manufacture

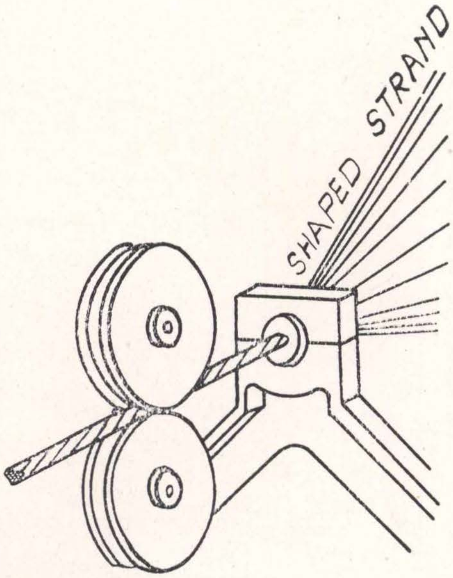

MULTI AND SINGLE WIRE WINDING.
SHAPED OR ROUND STRANDING.
FABRIC AND PAPER LAPPING.
EXTRUDED LEAD COVERING.
IMPREGNATED JUTE BRAIDING.
DOUBLE WIRE ARMOURING.
JUTE SERVING.
COMPOUNDING.

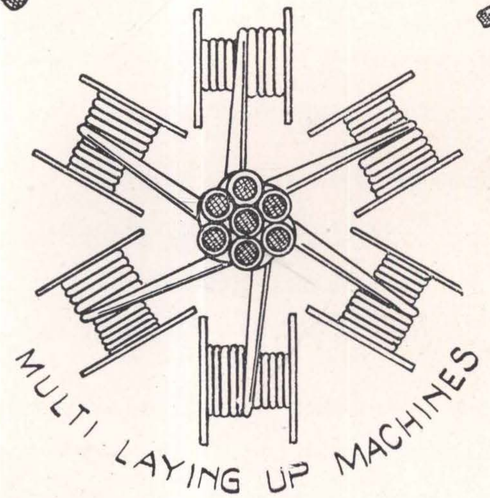

LAYING UP.
WIRE TINNING.
BUNCHING.
RUBBER TAPING OR LONGITUDINAL RUBBER COVERING.
RUBBER OR COMPOUND FORCING.
HESSIAN OR FABRIC TAPING.
MULTI WIRE BRAIDING.
FINE WIRE WINDING (UP TO TWELVE ENDS.)
EXTRUDING AND VULCANIZING.

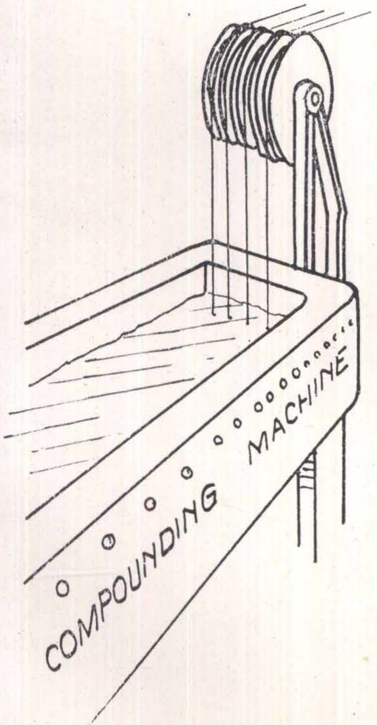
Various Machine Processes as applied to Electric Cable

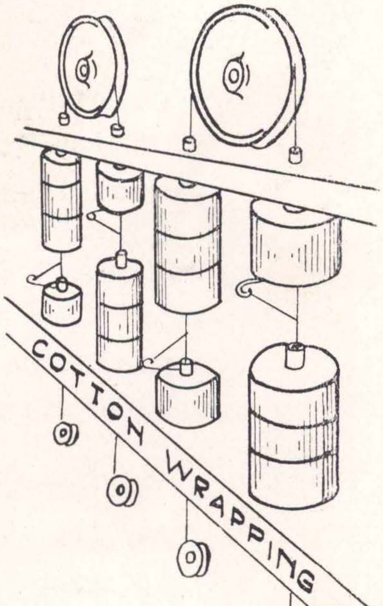


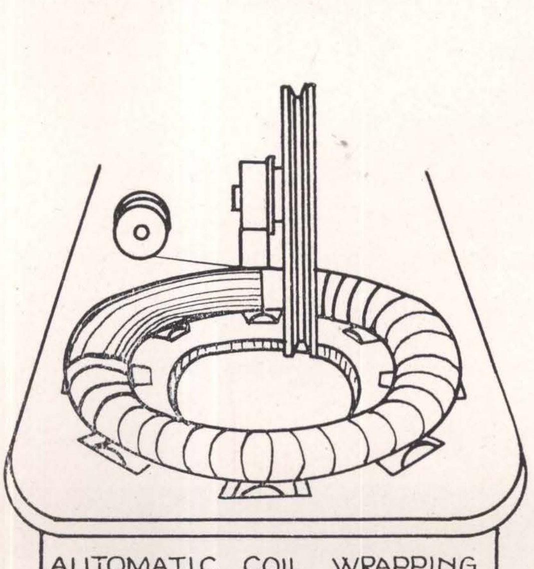












Introduction

IN presenting this catalogue it is our intention to illustrate and describe a comprehensive selection of the Machinery and Plant which we manufacture. After twenty-five years of progress, we think that our past friends and new will appreciate that we have kept abreast with the industry for which we have the pleasure of serving, by introducing new ideas and designs with the intention of increasing the quality and output of the products.

Our works are equipped with a Laboratory and Research Department and the latest machine tools and equipment, so as to give us the best possible results.

We are using, in the construction of our plant, metals and new alloys specially processed and heat treated to avoid inaccuracy through wear and fatigue and to give the highest possible durability and service.

Frictionless bearings of special design are fitted wherever possible, reducing wear and horse power to a minimum. Lubrication problems are given special attention and our plant and machinery is fitted with the most suitable and efficient systems.

We welcome any problems in which our friends may feel we could be of any assistance to them, and are always gratified by their visits to our works for the purpose of discussing their requirements. In the future, as in the past, our Technical Representatives will make their periodical visits, which we are of the opinion have proved to be of mutual advantage.

INTRODUCTION

EN présentant ce catalogue nous avons l'intention d'illustrer et de décrire un choix compréhensif de machines et de matériel d'usine que nous fabriquons. Après 25 ans de progrès, nous pensons que nos amis anciens et actuels constateront que nous nous sommes tenus á la hauteur de l'industrie pour laquelle nous avons le plaisir de travailler, en introduisant des idées et des dessins nouveaux dans le but d'augmenter la qualité et le rendement des produits.

Nos usines ont un laboratoire et un Département de Recherches et des machines outils et agencement des plus moderns afin d'obtenir les meilleurs résultats.

Nous employons dans la construction de notre matériel, des métaux et des alliages nouveaux spécialement composés et traités par la chaleur pour éviter le manque de précision par suite d'usure et de fatigue et pour donner la plus grande durée et le meilleur service.

Des coussinets, éliminant la friction, d'un modèle spécial sont fixés partout où il est possible de le faire, réduisant ainsi l'usure et la force motrice á leur minimum. Les problèmes de la lubrifaction font l'objet d'une attention spéciale et notre matériel et nos machines sont munis des agencements les plus convenables et les plus efficaces.

Nous accueillons avec plaisir tous problèmes pour lesquels nos amis pourraient trouver notre assistance utile, et nous sommes toujours flattés par leurs visites á nos usines dans le but de discuter ce dont ils ont besoin. A l'avenir, comme par le passé, nos représentants techniques feront leurs visites périodiques qui, nous semble-t-il ont été d'un avantage mutuel.

INTRODUCCIÓN

AL presentar esta catálogo nos domina la intención de ilustrar y describir una selección comprensiva de la Maquinaria e Instalaciones que fabricamos. Después de veinticinco años de progreso, creemos que nuestros antiguos y nuevos amigos sabrán apreciar que nos hemos mantenido en la vanguardia de la industria a la cual tenemos el placer de servir, introduciendo nuevas ideas y diseños con el propósito de aumentar la calidad y el rendimiento de los productos.

Nuestros talleres se encuentran provistos de un Laboratorio y un Departamento de investigación científica, con la maquinaria y utillaje más moderna, para poder brindar los mejores resultados. En la construcción de nuestras instalaciones empleamos metales y aleaciones nuevas de preparado especial y tratados al calor, para evitar inexactitudes debido al desgaste y a la fatiga y para proporcionar la durabilidad y servicio de primera clase. Donde sea posible montamos rodamientos antifricción de diseño especial, reduciendo a un mínimo el desgaste y la fuerza motriz. Destinamos especial atención a los problemas de lubrificación y nuestras instalaciones y maquinaria son provistos de los sistemas más convenientes y eficientes.

Aceptamos gustos cualquier problema en el cual nuestros amigos crean que podamos serles de utilidad y siempre nos agradan sus visitas a nuestros talleres con el objeto de discutir sus necesidades. En el porvenir, como en el pasado, nuestros Representantes técnicos efectuárán visitas periódicas, las que creemos han demostrado ser de provecho mutuo.

ВВЕДЕНИЕ

Мы выпускаем этот католог с целью дать описание и иллюстрацию обширного выбора машин и производственного оборудования, изготовляемых нами, и надеемся убедить наших старых и новых деловых друзей, что мы идем нога в ногу с прогрессом обслуживаемой нами промышленности, вводя новые и конструкции с целью улучшения качества продукта и увеличения производства.

Наши мастерские снабжены научно-испытательными лабораториями с самыми современными станками и другим оборудованием, что дает нам возможность достигать наилучшего качества в нашем производстве.

При изготовлении оборудования мы пользуемся металлами и новейшими сплавами специального изготовления и термической обработки, благодаря чему избегаются износ и усталость и достигается долговечность установки.

Где только возможно установлены специальные подшипники доводящие до минимума износ и потребление энергии. Особое внимание нами уделено вопросу смазки и системы смазок наших машин отличаются как соответствием назначению, так и эффективностью.

Мы приветствуем Ваше обращение к нам по всем вопросам в разрешении которых мы можем быть полезными, равно как и посещение Вами наших заводов для обсуждения Вамих потребностей.

Периодическое посещение намих клиентов всегда входило в программу работы намих технических представителей и вело к обоюдной пользе, каковые посещения мы считаем желательным продолжать и в будущем.

Wire Braiding Machines

To Suit All Requirements

for DETAILS SEE
Page 90

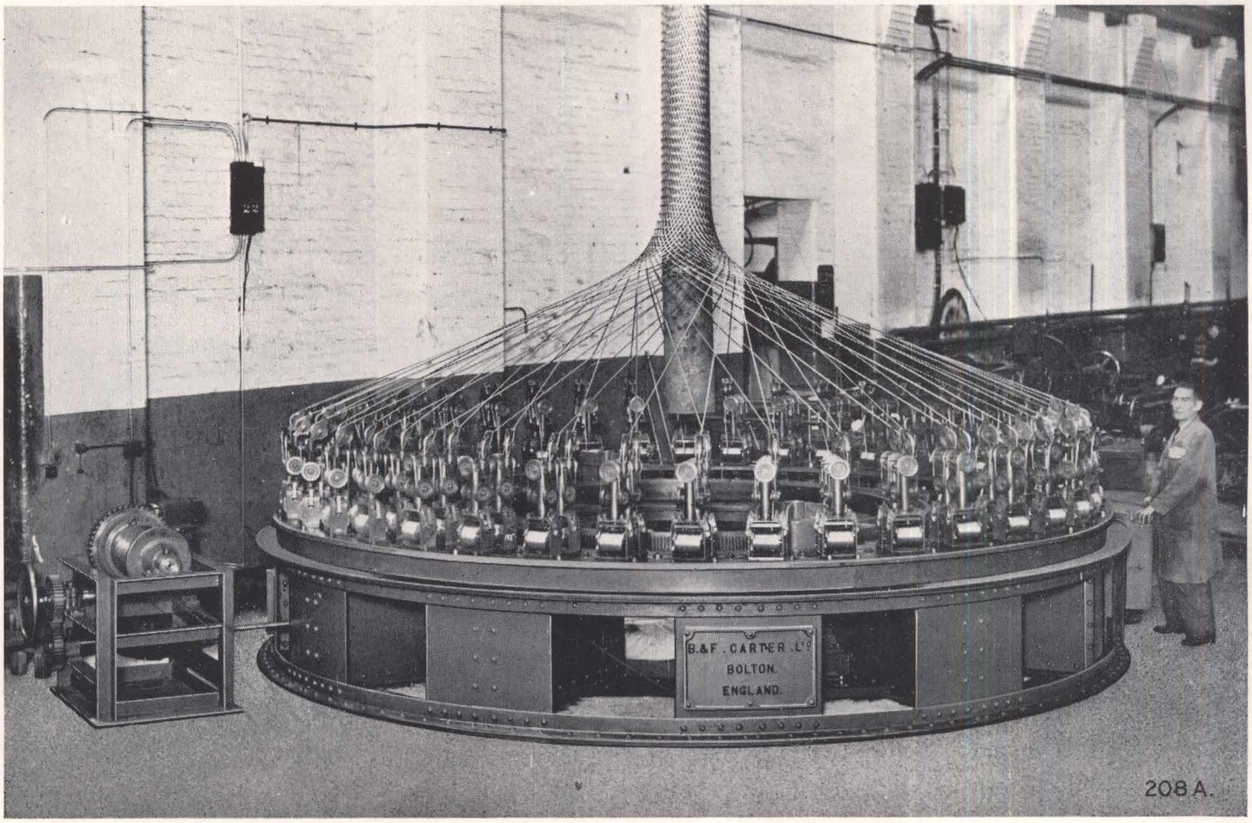


Illustration No. 208A.

80-Carrier Wire Braiding Machine

Producing one over one stitch

1. This Machine designed to braid with 80 strands of 17 ends flat wire braid, 105 tons tensile ·028-in. diameter wire. Tension on each strand 54-lbs.
2. Fitted with our "Max" Wire Carriers, as shown on page 56, Illustration No. 236a, but with a bobbin capacity of 80-100 yards of Flat Wire Braid 17/·028-in.
3. Driven by two synchronised motors and worm reduction gears. The power is evenly distributed to the Horngears by a large centre gear running on roller bearings.
4. Outside diameter of the machine 18-ft.
5. Haul-off by wire rope and grooved drum.

or DETAILS SEE
Page 90

For Flexible Metallic Tubing

and Rubber Hose, etc.

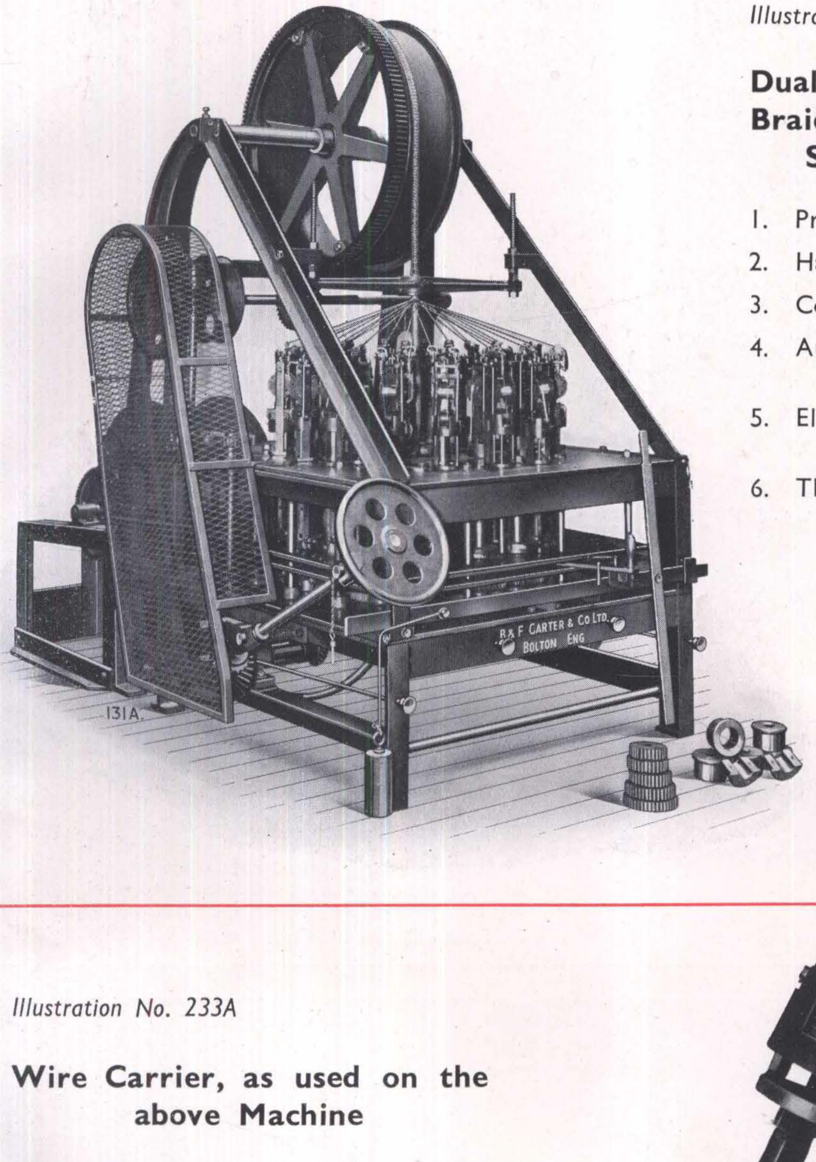


Illustration No. 131A

Dual Slide Plate Type High-speed Wire Braiding Machine, for Braiding with Steel, Brass, Bronze Wires, etc.

1. Production—169 stitches per minute.
2. Haul-off Capstan 3-ft. diameter.
3. Complete with Take-up Stand.
4. Automatic Electric Stop Motion when wire breaks or bobbin runs out.
5. Electric Motor Drive through Multi Vee Belts and Clutch.
6. This Machine can also be supplied with 24 and 40 Carriers.

Illustration No. 233A

Wire Carrier, as used on the above Machine

Hardened Steel Ratchet Bobbins $3\frac{1}{2}$-in. diameter × 2-in. traverse. Copper Wire capacity approximately 2-lbs. 6-ozs. Minimum Tension $2\frac{1}{2}$-lbs. Maximum Tension $7\frac{1}{2}$-lbs. approximately.

233A

Wire Braided Flexible Metallic Tubing

Efficient Machinery Pays

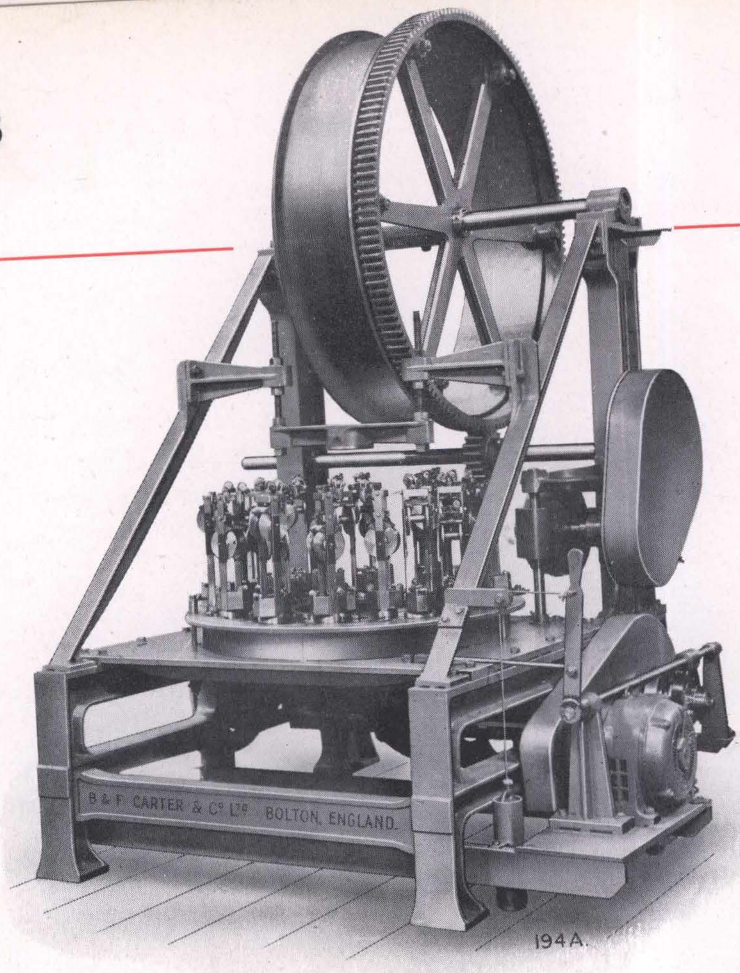


Illustration No. 194A

24-Carrier Single Tier Wire Braiding Machine

For Braiding with Brass, Steel or Copper Wire

1. Production 192 Stitches per minute.
2. Fitted with "Triton" High Capacity Wire Carriers as described and illustrated on this Page.
3. Haul-off Capstan 5-ft. diameter.
4. Automatic Electric Stop Motion when wire breaks or Bobbin runs out.
5. Electric Motor Drive through Multi Vee Belts and Clutch.

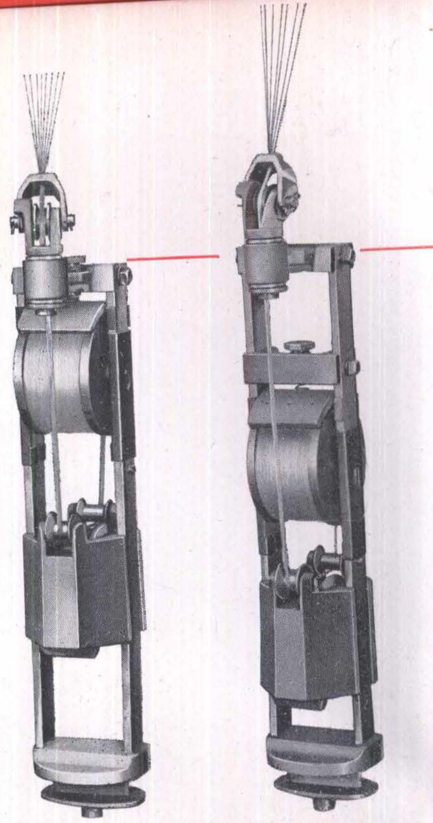


Illustration No. 164

"Triton"
High Capacity Wire Carriers No.
as used on these Machines

Patent Nos.:—British 548684. U.S.A. 454426

Arranged with plain flanged bobbins :— Fitted
4¼-in. diameter × 2-in. between flanges.
Dual Balanced Adjustable Friction Brake Release M
and Swivel Assembly which reduces friction and gu
multiple number of ends in parallel order to the br
point. Large Bobbin Capacity approximately
Copper Wire. Minimum Tension :—1½-lbs. Max
Tension :—4-lbs. approximately.

Unique Features :—

1. Larger Bobbin on smaller Horngear Braiding Ma
2. Longer runs without the necessity of re-wind
3. Heavy Tension. 4. Increased Productio

For Further Details and Other Carriers See Leaflet No

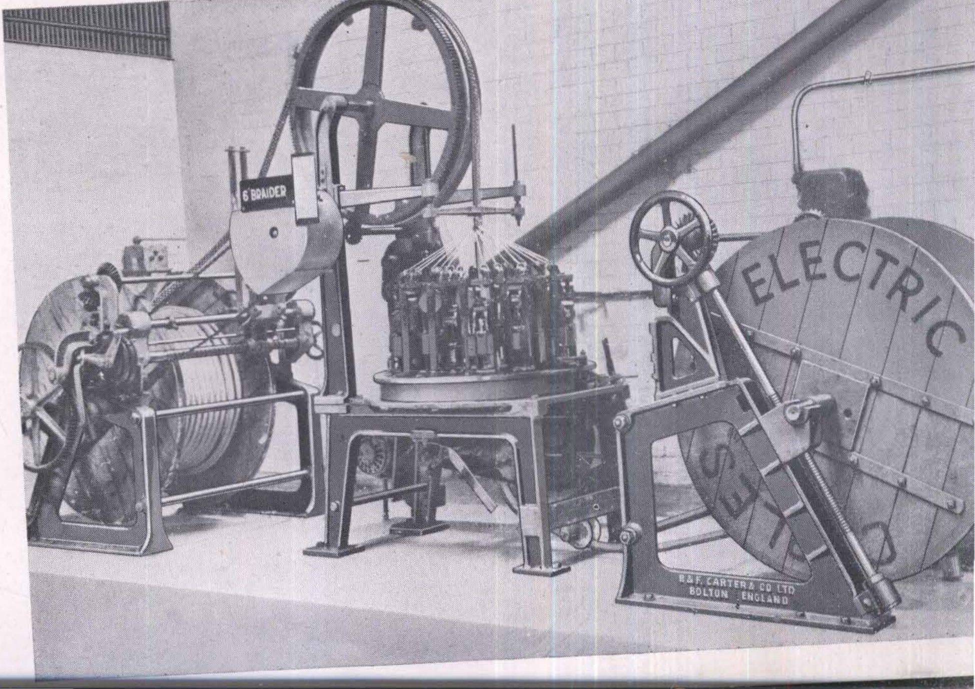
Illustration No. 200

24-Carrier Single Tier Type Wire Braiding Machine

For Braiding with Brass, Steel or Copper Wire

1. Production—240 Stitches per minute.
2. Fitted with "Triton" High Capacity Wire Carriers, as described and illustrated on this Page.
3. Haul-off Capstan 3-ft. diameter.
4. Automatic Electric Stop Motion when wire breaks or Bobbin runs out.
5. Complete with Pay-out and Take-up Stands for Drums 5-ft. diameter.
6. Electric Motor Drive through Multi Vee Belts and Clutch.

Photograph of actual products of this machine shown on page



or DETAILS SEE

Pages 88 and 90

Yarn Braiding Machines

For Electric Wires, Cables, etc.

Illustration No. 265

36-Carrier High Speed Braiding Machine

Extra Heavy Type, for Braiding with Tarred Hemp, Jute and Cotton Yarn etc.

1. Production 240 stitches per minute.
2. Fitted with "Speedway" Carriers suitable for Cheeses or Bobbins of Yarn 4-in. diam. × 7-in. traverse.
3. Haul-off Capstan 5-ft. diameter.
4. Electric Stop Motion when Yarn breaks or Bobbin runs out.
5. Electric Motor Drive through Multi Vee Belts and Clutch.
6. Smaller Overall Dimensions.

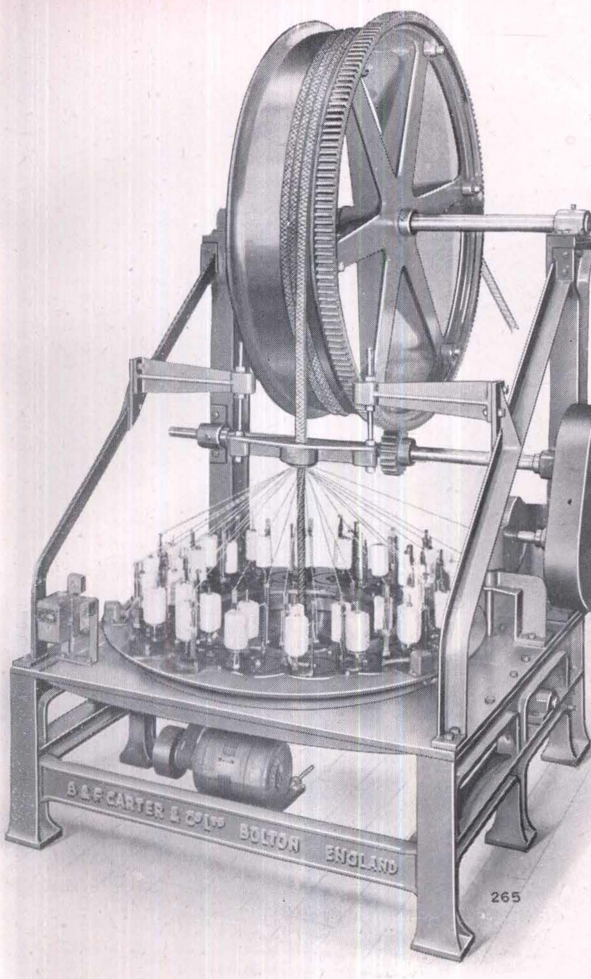
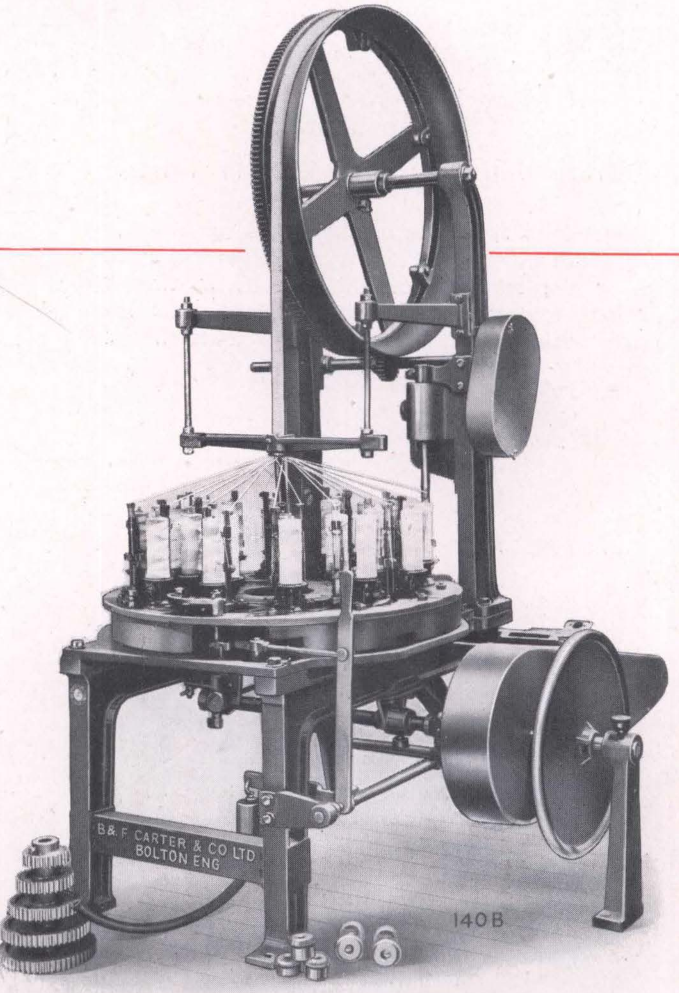


Illustration No. 140B

24-Carrier Braiding Machine

For Braiding with Tarred Hemp, Jute or Cotton Yarns etc.

1. Production 320 stitches per minute.
2. Fitted with No. 4 "Speedway" Carriers, suitable for Cheeses or Bobbins of Yarn 3 in. diam. × 6 in. traverse.
3. Electric Stop Motion when Yarn breaks or Bobbin runs out.
4. Electric Motor drive through Multi Vee Belts and Clutch.



Carter's Speedway Carriers used on these machines

Described and illustrated on page 54, illustration No. 231B

Drum or Reel Stands

for DETAILS SEE
Page 100

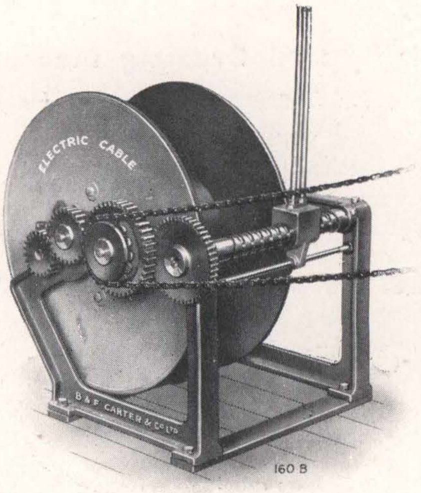


Illustration No. 160B

Take-up Stand

For Drums 2-ft. 0-in. diam, × 12 in. Traverse

Arrangements are made on the Stand for altering the pitch of traverse by means of changewheels and altering the traverse for the various widths of Drums by means of an adjustable sleeve. This can be set within the limit of half the cross thread pitch.

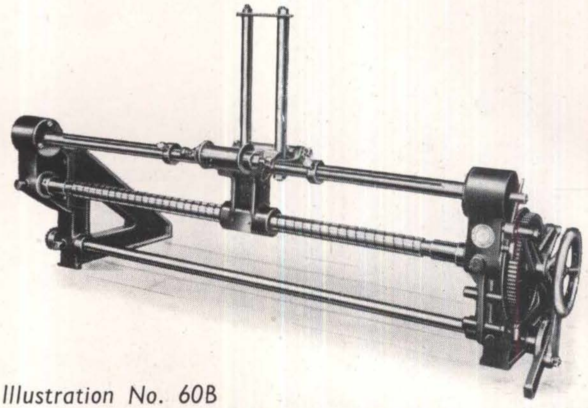


Illustration No. 60B

Infinitely Variable Traverse Motion

Suitable for mounting on to your existing
Cable Take-up Stands

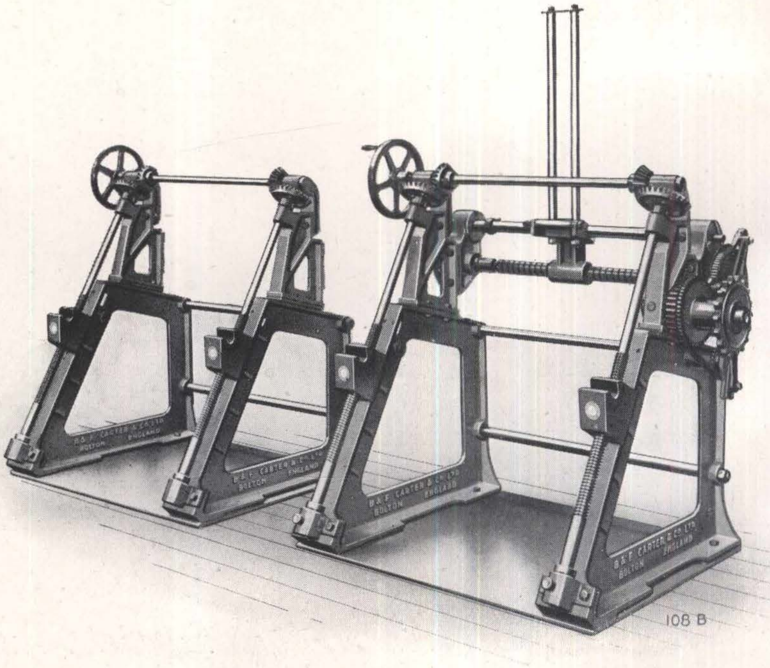
1. Control Bar fitted with ball thrust bearings at each end.
2. Single thread traverse screw.
3. Hardened steel ratchet wheel and throw cam for controlling the steel pawls.
4. Designed for varying the length or pitch of traverse, so that drums or reels of various widths between flanges and cable of different diameters can be wound evenly side by side.

Illustration No. 108B

Portable Cable Take-up and Pay-out Stands

For Drums 4-ft. 0-in. diam. × 2-ft. 0-in. traverse

1. Fitted with Infinitely Variable Traverse Motion as described and illustrated on this Page, Illustration No. 60B.
2. Drums are raised and lowered by means of screws, with control gear situated above ground level and operated by means of a hand wheel.
3. Mounted on Steel Base Plates for easy transportation.
4. Ingenious setting for controlled traverse dwell on the reverse motion.
5. Friction Clutch with thumb screw control to regulate the speed as the cable builds up on the drum.

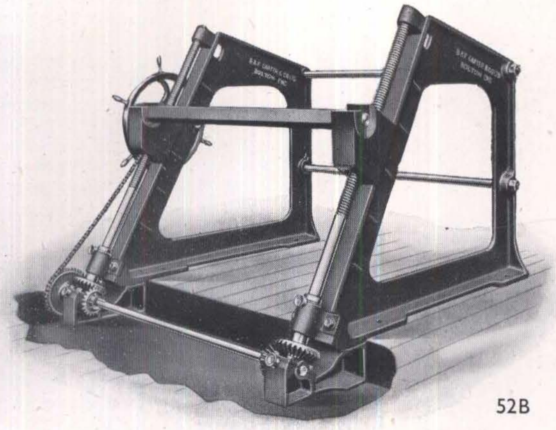


For other Driven Drum Stands See Pages 17 and 18

or DETAILS SEE

Page 100

Drum or Reel Stands

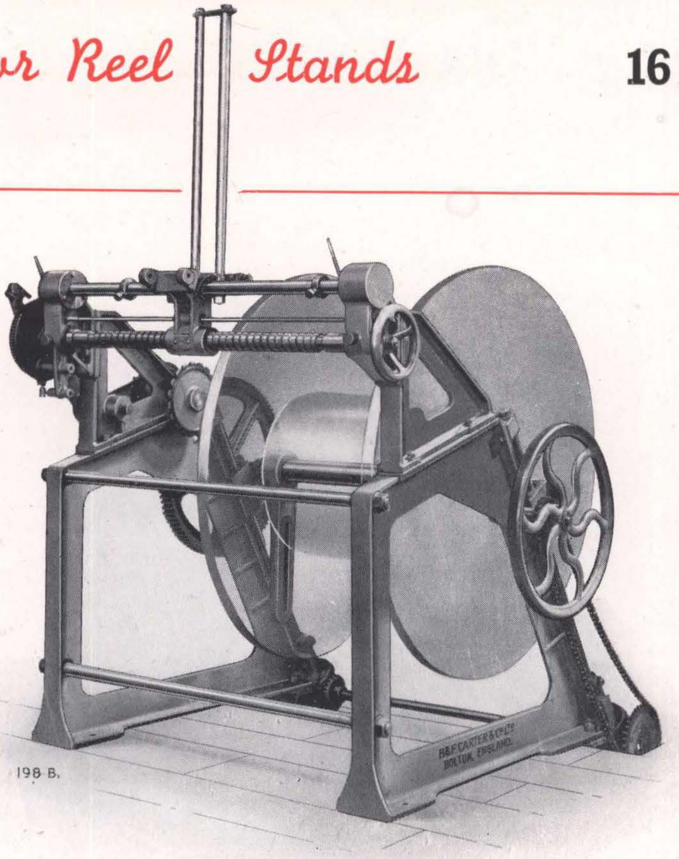

B.&F. CARTER & CO. LTD. BOLTON ENG.
B.&F. CARTER & CO. LTD. BOLTON ENG.

52B

Illustration No. 52B

Pay-out Stand

Suitable for Drums 6-ft. 6-in. diameter × 3-ft. 0-in. Traverse



198 B.

Illustration No. 198B

Take-up Stand

Suitable for Drums 6-ft. 6-in. diameter × 3-ft. 0-in. Traverse

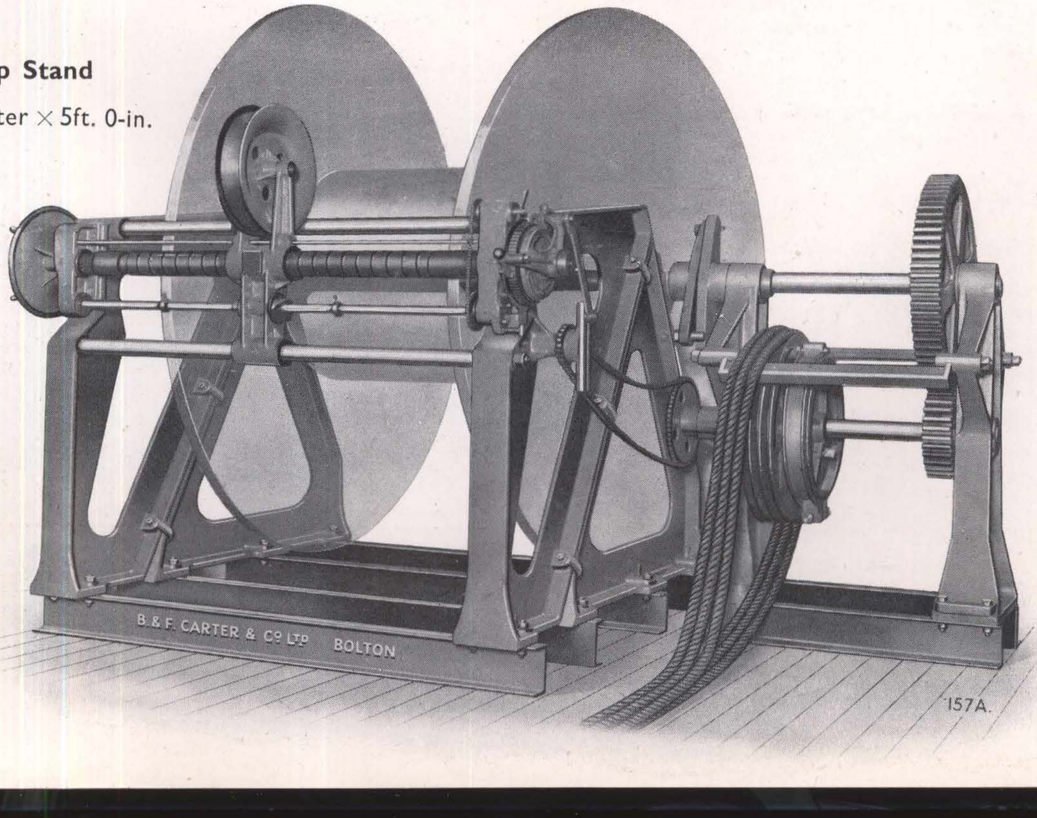
1. Fitted with Infinitely Variable Traverse Motion, as described and illustrated on Page 15, Illustration No. 60B.
2. Drums raised and lowered by means of screws with control gear situated below ground level, and operated by means of a hand wheel.
3. Steel Drum Spindle of 40 tons tensile.
4. Friction Clutch with thumb screw control to regulate the speed as the cable builds up on the drum.

Illustration No. 157A

Extra Heavy Take-up Stand

For Drums 10-ft. 0-in. diameter × 5ft. 0-in. traverse

1. Fitted with Infinitely Variable Traverse Motion, of similar construction to that described and illustrated on Page 15, Illustration No. 60B., but of heavy construction, with grooved wheel cable guide.
2. Stand suitable for accommodating cable up to 5-in. diameter.
3. Drive by 3 groove Rope Pulley and friction drum to regulate the speed as the cable builds up on the drum.
4. Pay-out Stand can be supplied to work in conjunction with the above.



157A.

17 *Independently Driven Drum Stand*

For Lead Extrusion Presses, Electric Cable Spark Testers, etc.

for **DETAILS SEE**

Pages 88 and 100

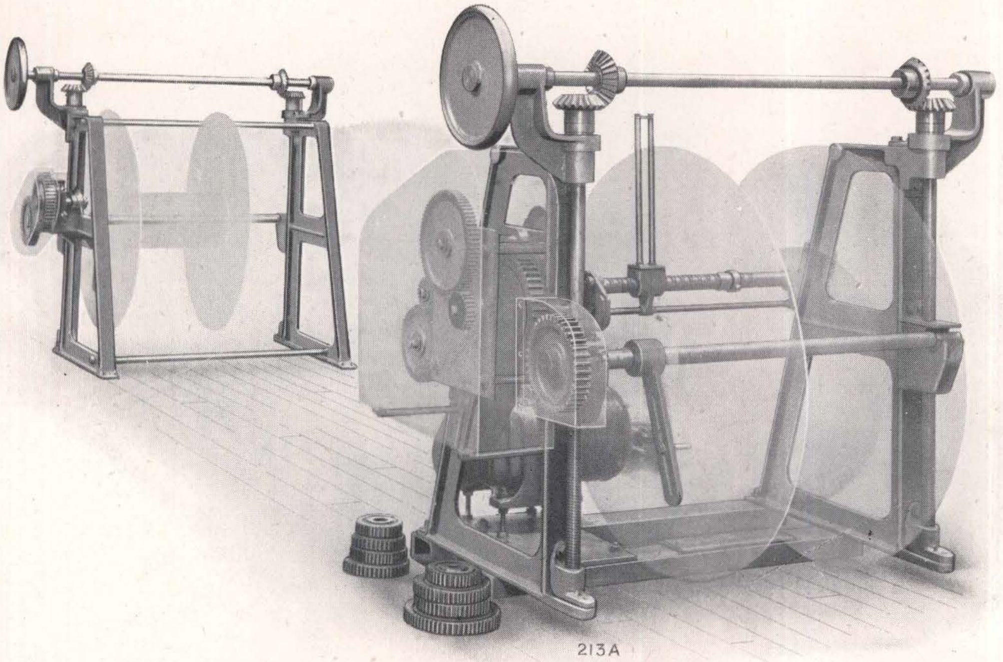


Illustration No. 213A

Drum Mounting Mechanism

To work in conjunction with an Electric Cable Spark Tester

Each Stand is arranged to accommodate Drums 3-ft. 6-in. diameter × 24-in. traverse, and is suitable for cables from ·05-in. diameter to ·625-in. diameter, with a maximum cable speed up to approximately 18,000 yards per hour, and fitted with easy lift raising and lowering motion.

The Take-up Stand is arranged with Traverse Motion, adjustable for different widths of drums, and changewheels for varying the pitch of traverse from $\frac{1}{8}$-in. to $\frac{5}{8}$-in.

Both the Stands are equipped with electro-mechanical brake, foot operated ; that on the Take-up Stand coming into operation a split second before the Pay-out Stand, to prevent stretching of the cable or wire.

The Take-up Stand is driven by $1\frac{1}{2}$ h.p. Electric Triple Reduction Motor.

Illustration No. 139A

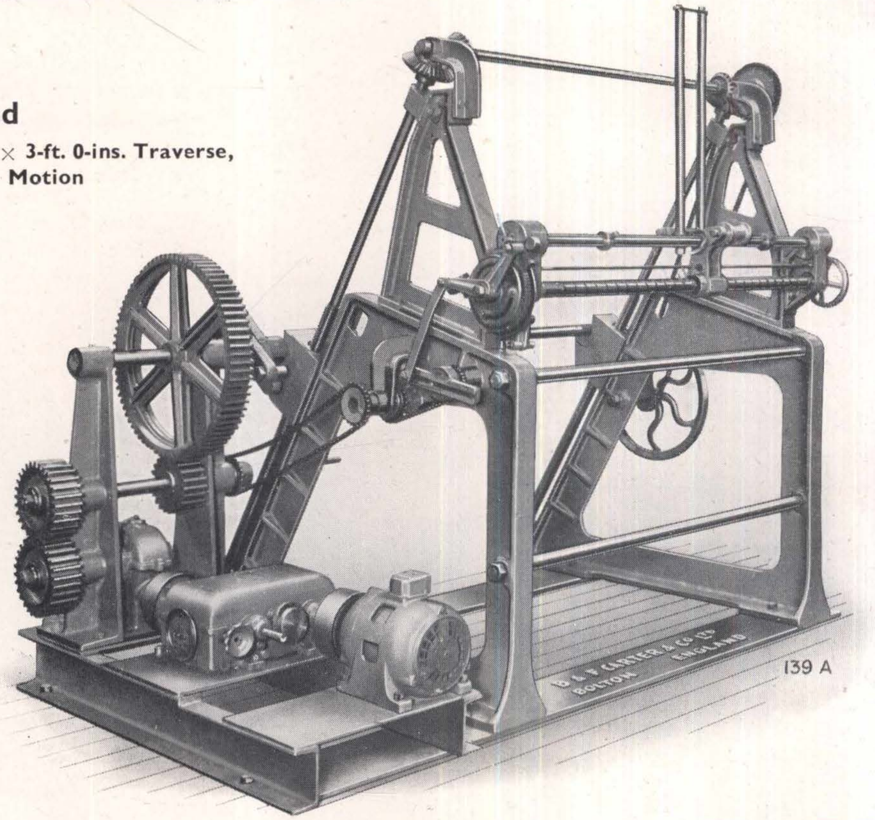
Cable Take-up Stand

Suitable for Drums up to 6-ft. 6-ins. diameter, × 3-ft. 0-ins. Traverse, with Infinitely Variable Traverse Motion

This Unit is invaluable where trouble is experienced of getting certain compounds to penetrate, and where it is necessary to re-wind at slow speeds.

With ingenious setting for controlled traverse dwell on the reverse motion, and device for raising and lowering drums by means of screws, with control gear situated above ground level. Operated by means of a hand wheel situated on the right hand side.

Arranged with Driven Reduction Unit comprising Electric Motor, Positive Infinitely Variable Gear, Worm and Wormwheel Reduction Gear to give an ultimate speed ratio to the Drum Spindle of $3\frac{1}{2}$ to $17\frac{1}{2}$ r.p.m. This Unit giving 5—1 ratio, which can be increased by means of changewheels, giving a maximum ratio of 20—1.



Special Purpose Take-up Stands

or DETAILS SEE

Pages 100 and 101

Driven Drum Stands

Illustration No. 97A

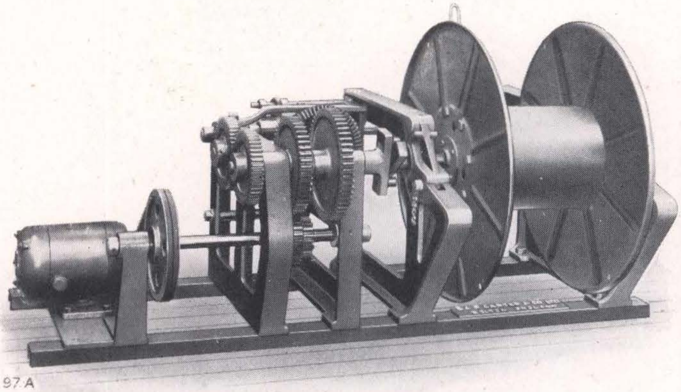
High-speed Drum or Reel Winder

For Drums 25-in. diameter × 12-in. traverse.

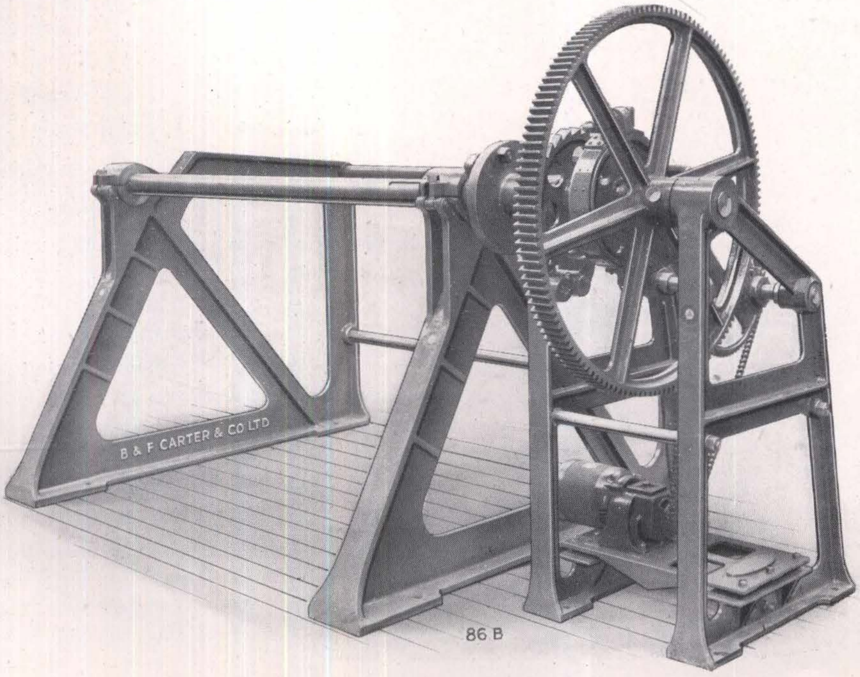
Arranged with 2 speeds operating through Sliding Gears giving approximately 150/250 r.p.m. of winding, with Variable Traverse. The Pitch or Lay of wind is obtainable through Changewheels, namely $\frac{1}{8}$-in., $\frac{3}{16}$-in., $\frac{1}{4}$-in., $\frac{5}{16}$-in. and $\frac{3}{8}$-in. Complete with Electric Motor through Multi Vee-belt Drive

Distinctive Features :—

Variable Traverse, Pitch and Length
Take-up Reels up to 25-in. diameter × 12-in. traverse
Guide Traverse Forks adjustable for different diameters of Reels
Quick Releasing Device for Reel Spindle



97 A



86 B

Illustration No. 86B.

Combined Take-up and Pay-out Stands

For Drums or Reels of a maximum size 8′ 6″ diameter × 4′ 6″ traverse.

Operated by $1\frac{1}{2}$ h.p. Electric Motor through Push-button Control. A Friction Mechanism to allow for slipping is incorporated as the Cable builds up on the Drum or Reel.

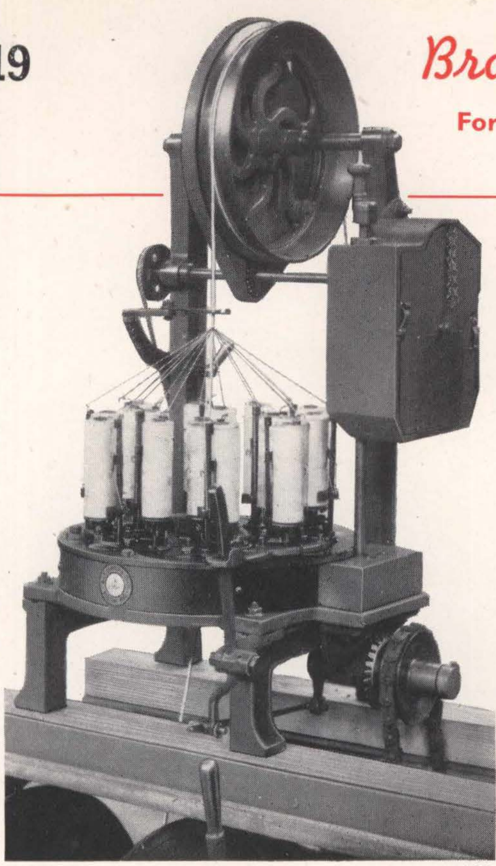
A Ratchet Wheel and Pawl is fitted as a checking action to stop any running back of the Drum as it is being wound. This Stand can be arranged for the Cable to be paid in, either over or underneath the Drum

Stands to suit all requirements

Bench Braiding Machines

For Electric Wires and Cables

for **DETAILS SEE**
Page 87



133B

Illustration No. 133B

High-speed Machines

For Braiding with Cotton, Polished Cotton, Silk, Fibrous Material, etc.

1. Production approximately 544 stitches per minute
2. 14-in. diameter Haul-off Capstan
3. 16 " Speedway " Carriers loaded with Cheeses of Yarn
4. Vee-belt and Clutch-drive, with Automatic Knock-off Motion

Illustration No. 191B

I/900AC " Speedway " Carriers, as used on These Machines

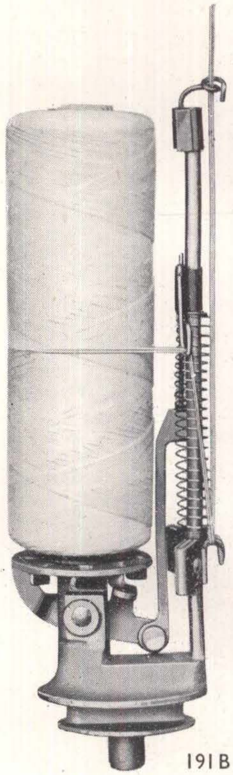
British Patent No. 543502

Suitable for loading with Cheeses of Yarn $1\frac{13}{16}$-in. diameter, × 5-in. long, or Double-flanged Bobbins 4-in. traverse × $1\frac{3}{4}$-in. diameter flanges

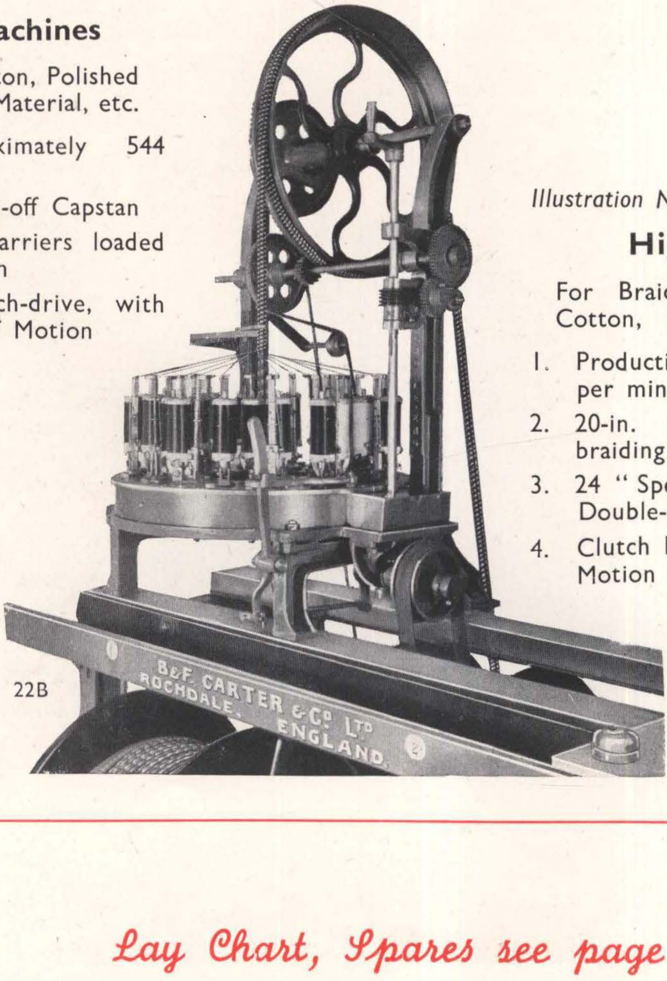
With quick release clips to facilitate easy change of the tension springs for the yarn control

Special roller weight in lieu of hooked weight supplied on request

For further details and other Carriers *see our Leaflet No.* 10



191B



22B

Illustration No. 22B

High-speed Machines

For Braiding with Cotton, Polished Cotton, Silk, Fibrous Materials, etc.

1. Production approximately 480 stitches per minute
2. 20-in. diameter Haul-off Capstan, braiding $\frac{5}{8}$-in. diameter Flexible Cable
3. 24 " Speedway " Carriers, loaded with Double-flanged Bobbins
4. Clutch Drive with Automatic Knock-off Motion

Photograph of actual products covered on these machines shown on page 110, Items A and B.

Lay Chart, Spares see page 23

or DETAILS SEE

Page 87 and 88

Bench Braiding Machines

For Rubber Hose, Electric Cables, Braided Tubes, etc.

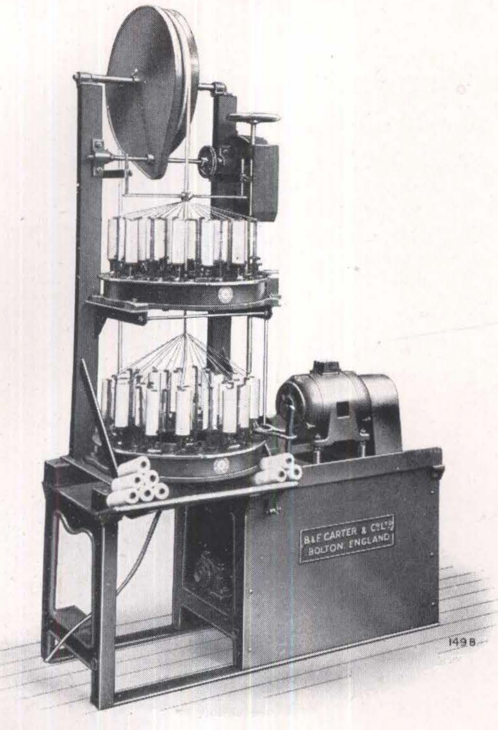


Illustration No. 149B

High-speed Double-tier Machine

With Mounting Mechanism, for Braiding with Cotton, Polished Cotton and Fibrous Materials, etc.

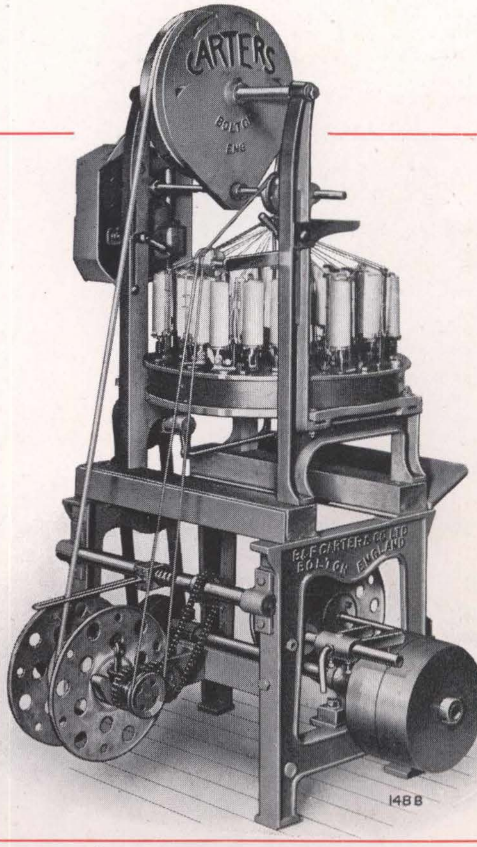
1. Production approximately 480 stitches per minute
2. 20-in. diameter Haul-off Capstan
3. 24 " Speedway " Carriers on each tier, suitable for Cheeses of Yarn $1\frac{13}{16}$-in. diameter × 5-in. long, or Double-flanged Bobbins 4-in. traverse × $1\frac{3}{4}$-in. diameter flanges
4. Direct Motor Drive through Vee-belts and Clutch
5. Automatic Knock-off Motion

Illustration No. 148B

High-speed Machine

For braiding with Cotton, Polished Cotton and Fibrous Materials, etc.

1. Production approximately 544 stitches per minute
2. 14-in. diameter Haul-off Capstan
3. 24 " Speedway " Carriers, suitable for Cheeses of Yarn $1\frac{13}{16}$-in. diameter × 5-in. long, or Double-flanged bobbins 4-in. traverse × $1\frac{3}{4}$-in. diameter flanges
4. Complete on Mounting Mechanism with built on Pay-out and Take-up Stands and Traverse Motion, suitable for Drums of various sizes
5. Fast and Loose Pulley Drive with Automatic Knock-off Motion



Further Mounting Mechanism illustrated on pages 21, 22 and 71

Mounting Mechanism

For Bench Braiding Machines

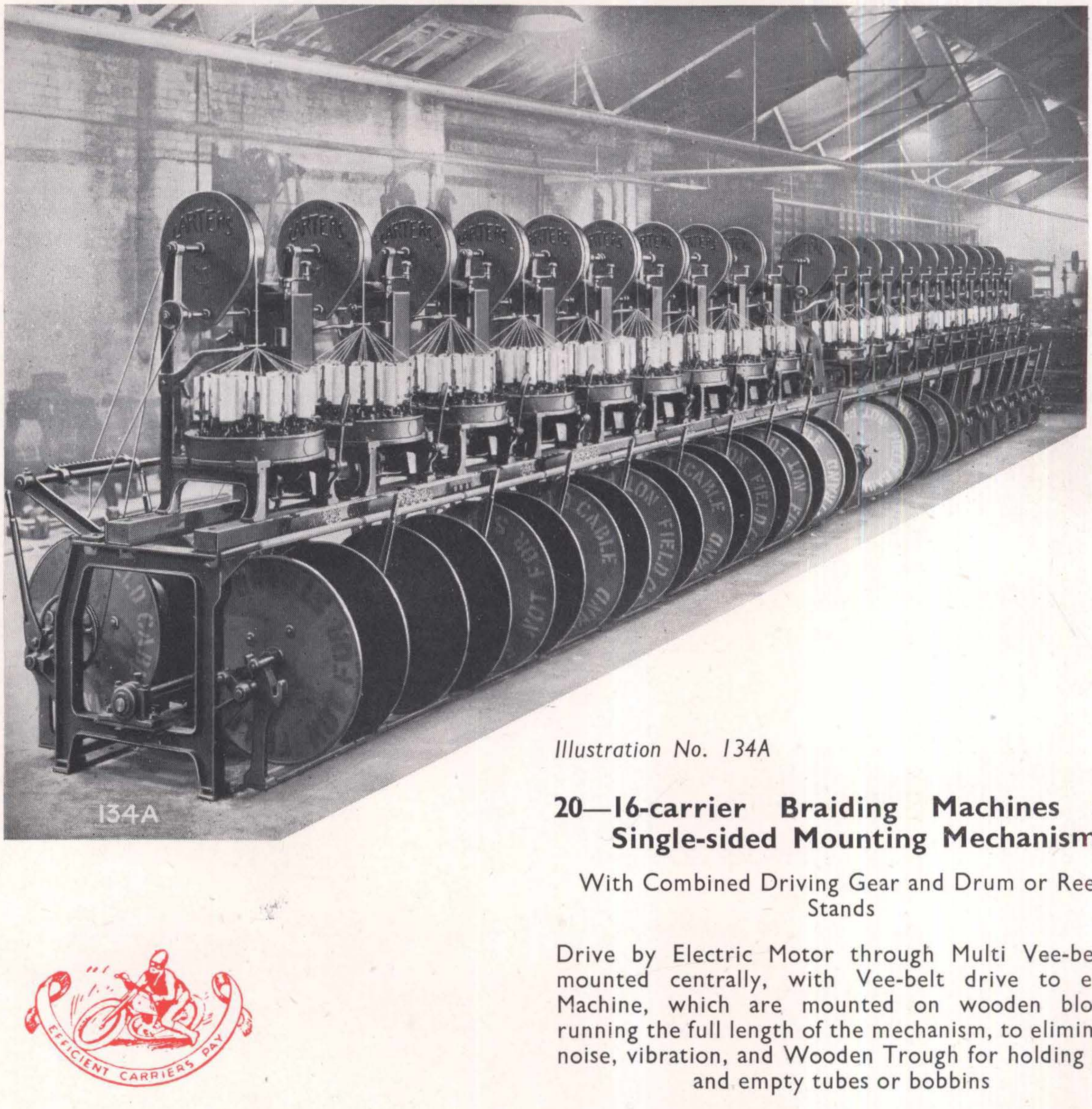


Illustration No. 134A

20—16-carrier Braiding Machines on Single-sided Mounting Mechanism

With Combined Driving Gear and Drum or Reel Stands

Drive by Electric Motor through Multi Vee-belts, mounted centrally, with Vee-belt drive to each Machine, which are mounted on wooden blocks running the full length of the mechanism, to eliminate noise, vibration, and Wooden Trough for holding full and empty tubes or bobbins

Each Drum is fitted with See-saw Mounting to ensure easy handling (*See page 22 for close-up*)

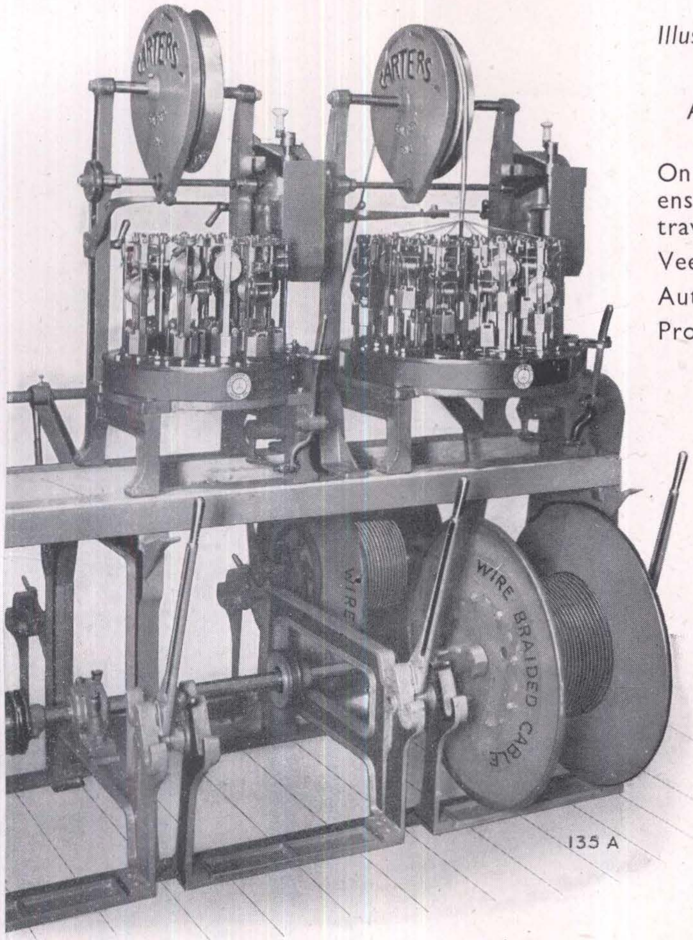
Heart Cam Traverse Motion driven by worm reduction gear, for Common Traverse to the Machines, can be fitted if desired

EFFICIENT CARRIERS PAY

or DETAILS SEE
Page 90

Bench Wire Braiding Machines

For Electric Cables, Rubber Hose, Tubes, etc.



135 A

Illustration 135A

16 and 24-Carrier Wire Machines

Arranged with No. 1A "Triton" Carriers, as described below

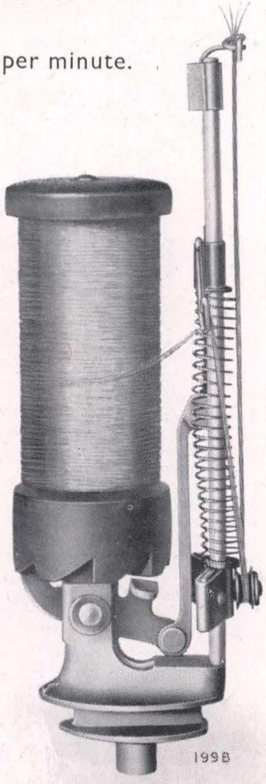
On Mounting Mechanism with See-Saw Mounting to ensure easy handling of the 24-in. diameter × 12-in. traverse drums. With 14-in. diameter Haul-off Capstan.

Vee Belt Drive and Clutch to each Machine.

Automatic Knock-off Motion.

Production approximate 260 stitches per minute.

EFFICIENT CARRIERS PAY



199B

Illustration 141A

"Triton" High Capacity Wire Carriers

No. 1A as used on these Machines. Patent No. :—
British 548684. U.S.A. 454426.

Arranged with plain flanged bobbins, $2\frac{1}{4}$-in. diameter × $1\frac{1}{4}$-in. traverse between flanges.

Fitted with Dual Balanced Adjustable Friction Brake Release Motion.

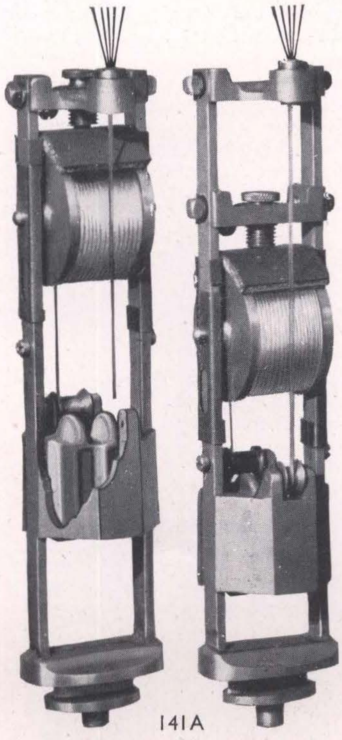
One bobbin carried in the high position and one in the low, so that a greater weight of wire can be accommodated. Capacity :—1-lb. per Bobbin of Copper Wire.

Min. Tension, 4-ozs. Max. Tension, 14-ozs. approximate.

Unique Features :—

1. Larger Bobbin on smaller Horngear Braiding Machine.
2. Longer runs without the necessity or re-winding.
3. Heavy Tension.
4. Increased Production.

For further details and other Carriers see Leaflet No. 10.



141A

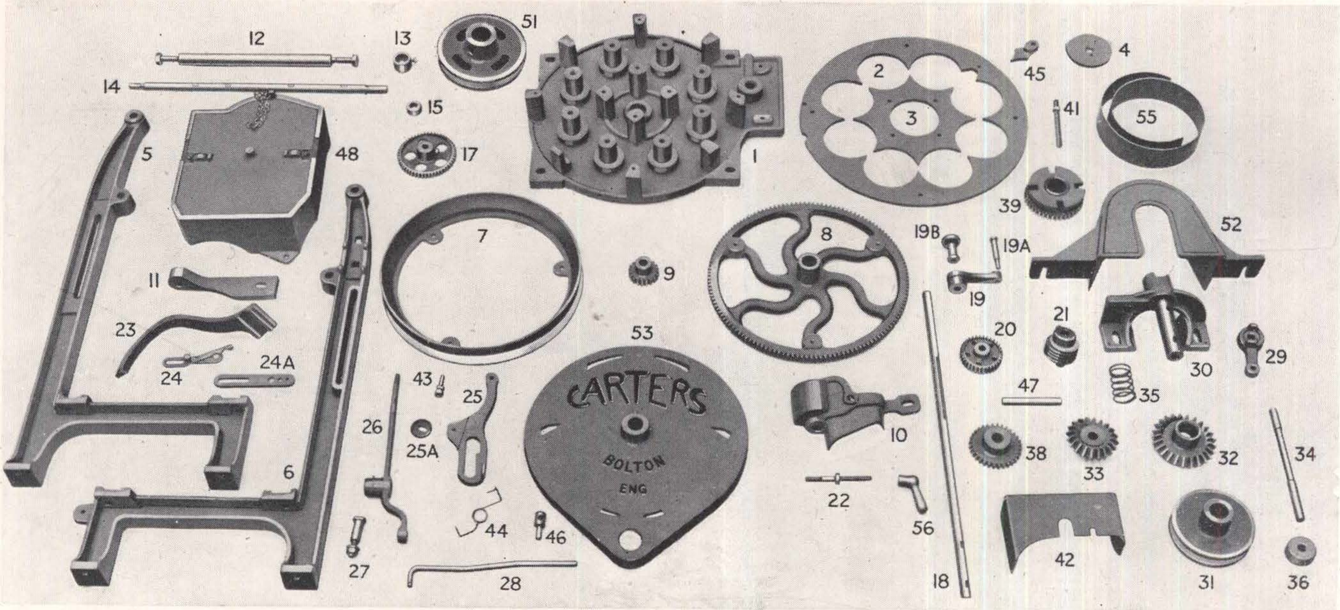
Illustration 199B

1/900 A.C. "Speedway" Carrier

with Wooden Ratchet Bobbin, 3-in. Traverse, as described on page 19. With Roller weight, used for Fine Wires.

Spare Parts and Lay Chart

For Bench Braiding Machines



Guide to Parts of Carters' Bench Braiding Machines

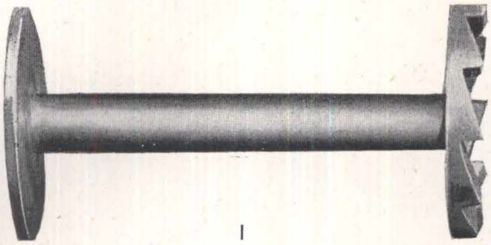
With 3·2-in. or 4-in diameter Horngear. Illustrated on pages 19, 20, 22, 70, 71 and 72.

1. Machine Base
2. Outside Race
3. Star
4. Cams
5. Left-hand Side Frame
6. Right-hand Side Frame
7. Haul-off Rim
8. Haul-off Wheel
9. Top Shaft Wheel
10. Worm and Wormwheel Bracket
11. Top Support Bracket for Upright Shaft
12. Top Stay to carry Haul-off
13. Collar for Haul-off 1-in. bore
14. Top Shaft
15. Collar for top shaft, $\frac{5}{8}$-in. bore
17. Changewheel
18. Upright shaft
19. Handle Bracket } Complete handle
19A. Stud for handle } Complete handle
19B. Grip for handle } Complete handle
20. Wormwheel
21. Worm
22. Stud to carry worm
23. Die Arm
24. Scissor Die
24A. Solid Die Plate
25. Knock-off Lever
25A. Washer for knock-off lever
26. Starting Lever
27. Fulcrum Stud for starting lever
28. Connecting Rod from starting lever to claw bracket
29. Claw Bracket to clutch
30. Bottom Bracket to pulley
31. Driving Pulley for "V" belt. (Flat belt pulley supplied if necessary)
32. Bevel Wheel on bottom shaft, $1\frac{1}{8}$-in. bore
33. Bevel Wheel on upright shaft, $\frac{5}{8}$-in. bore
34. Shaft to release clutch
35. Spring for above
36. Collar for shaft to release clutch, $\frac{1}{2}$-in. bore
38. Driving Wheel for horngear
39. Horngear with one tooth in centre of slot. (If horngear with two teeth in centre of slot refer to No. 40)
41. Horngear Stud
42. Cover for driving wheel
43. Stud for knock-off lever
44. Spring for knock-off lever
45. Filling-up Piece
46. Connecting Rod Stud
47. Shaft for wormwheel
48. Changewheel Guard
51. $3\frac{1}{2}$-in. or $5\frac{1}{2}$-in. "V" Pulley for driving drum
52. Driving Pulley Guard
53. Haul-off Guard
55. Sheet-steel Guard for horngears
56. Locking Handles

16-Carrier Machine 4-in. diameter Horngear			
Stitches per inch	Lay in inches	14-in diameter Haul-off	
		Change Wheels	
		Bottom	Top
5	1·6	52	30
6	1·33	45	30
7	1·143	40	30
8	1·00	35	30
9	·89	47	47
10	·8	40	47
11	·727	37	47
12	·666	37	50
13	·61	27	42
14	·571	27	45
15	·533	25	45
16	·5	30	52
17	·47	25	47
18	·444	25	50
19	·421	27	55
20	·4	25	57
21	·38	20	47
22	·364	22	52
23	·348	20	52
24	·333	20	55
25	·32	22	60
26	·308	20	60
27	·298	20	62
28	·286	20	64
29	·276	20	65
30	·267	20	66

24-Carrier Machine 4-in. diameter Horngear					
Stitches per inch	Lay in inches	14-in. diameter Haul-off		20-in. diameter Haul-off	
		Change Wheels			
		Bottom	Top	Bottom	Top
5	2·4	50	22	42	30
6	2·00	50	27	40	35
7	1·7	50	32	37	37
8	1·5	50	37	35	40
9	1·33	45	35	30	40
10	1·2	40	35	32	45
11	1·09	40	42	27	42
12	1·00	40	45	27	47
13	·92	37	45	27	50
14	·85	35	47	22	45
15	·8	32	45	22	47
16	·75	30	45	25	57
17	·7	32	50	22	55
18	·66	25	42	20	55
19	·63	25	45	25	65
20	·6	25	47	22	62
21	·57	22	45	22	66
22	·54	25	52	22	70
23	·52	25	55	22	72
24	·5	22	50	20	70
25	·48	20	47	17	60
26	·46	22	55	17	62
27	·44	22	57	17	66
28	·42	20	55	15	62
29	·41	20	55	17	72
30	·4	20	57	15	65

Bobbins and Cheeseholders



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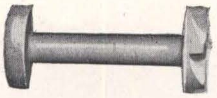

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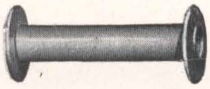

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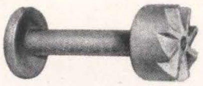

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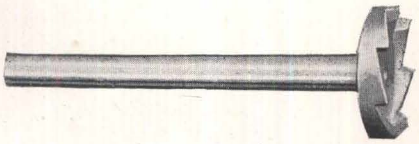

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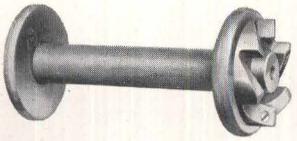

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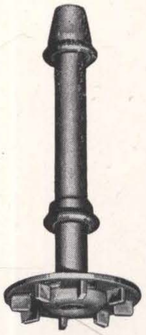

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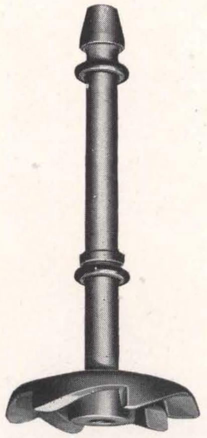

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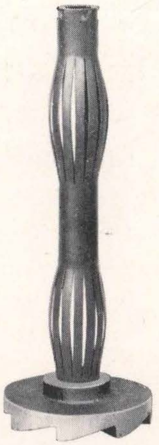

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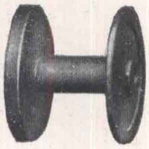

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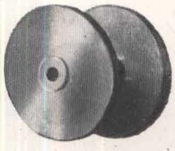

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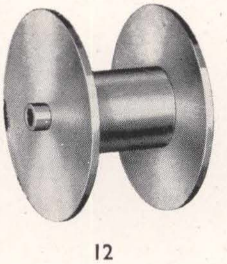

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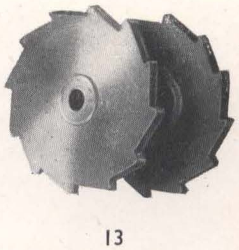


13

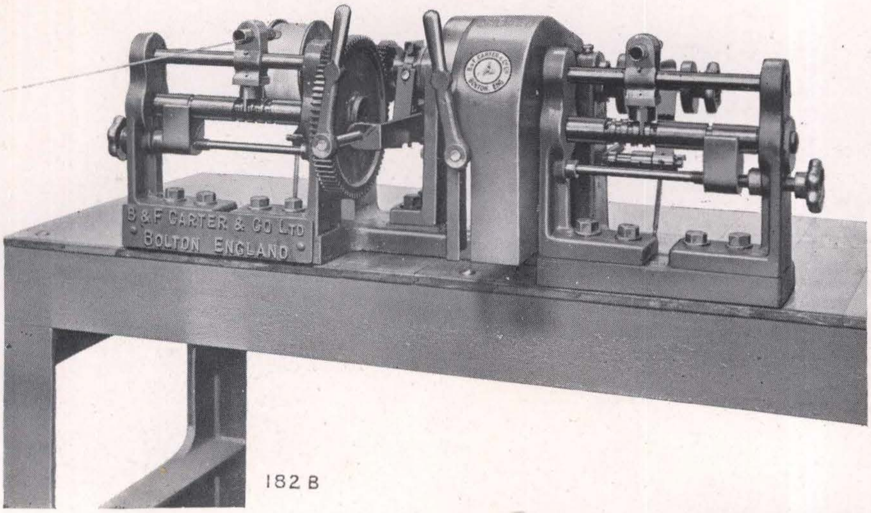
Various Designs of Bobbins and Holders for Braiding Machines, etc.

1. Cartlite Metal Double Flanged bobbins with ratchet at one end for use with Hemp, Jute, Cotton or any material which is impregnated with Grease, etc.
2. Double Flanged wooden bobbin with ratchet at one end.
3. Double Flanged cardboard bobbin for polished yarn.
4. Cartlite Metal single ended cheeseholder with patent ribbed barrel and protection flange round ratchet fins.
5. Double Flanged wooden bobbin for wire braiding on " Speedway " Carriers.
6. Double Flanged wooden bobbin with ratchet at one end for use on Sash Cord Braiding Machines.
7. Carter's " Rol-Holders " easy on the hand and yarn, with rubber rings suitable for parallel cardboard tubes and bobbins of $1\frac{13}{16}$-in. diameter. British and Foreign Patents applied for.
8. Carter's " Rol-Holders " easy on the hand and yarn, with rubber rings suitable for parallel cardboard tubes and bobbins of 4-in. diameter.
9. Balloon spring single ended cheeseholders with malleable iron flange for use with inverted carriers.
10. Double Flanged all metal bobbins with plain flanges for use on our " Friction Brake " type Wire Carriers.
11. Double Flanged all metal bobbins with plain flanges for use on " Triton " Friction Brake Type Wire Carriers.
12. Double Flanged all metal bobbins with plain flanges for use on " Max " Horizontal Wire Carriers.
13. Double Flanged steel ratchet bobbin for use on " Gravity Weight " Wire Carriers.

Bobbin Winding Machines

For Electric Cables, Flexible, Cords, Wires, etc.

for DETAILS SEE
Page 94



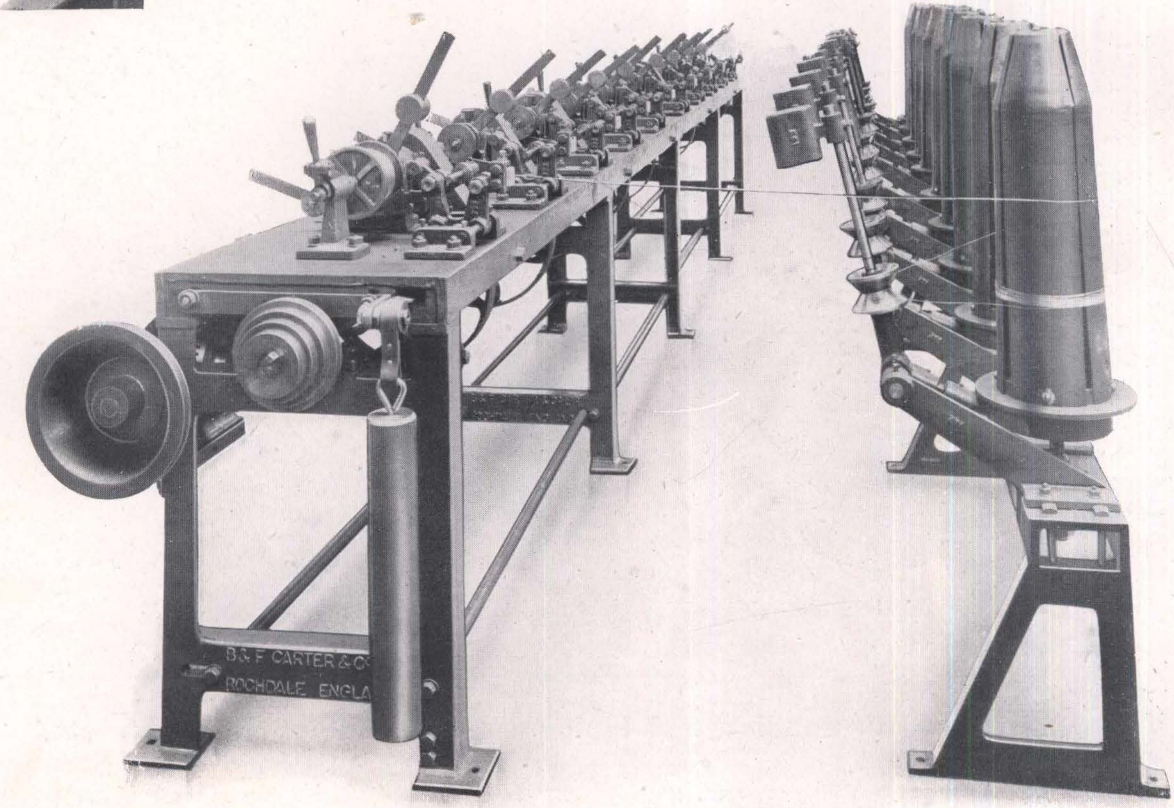
182 B

Illustration No. 182B

Bench Type Double-Head Yarn and Wire Bobbin Winding Machine

Complete with Trip Motion to stop the head when bobbin is wound to requirements.

Made suitable for any traverse from 3-in. to 8-in. Single Pulley Drive, each head clutch operated. Device for centralising the traverse between Bobbin flanges.



12A

Illustration No. 12A

New Design 10-Head Wire Winding Machine

and all Metal Swifts with Tensioning Device.

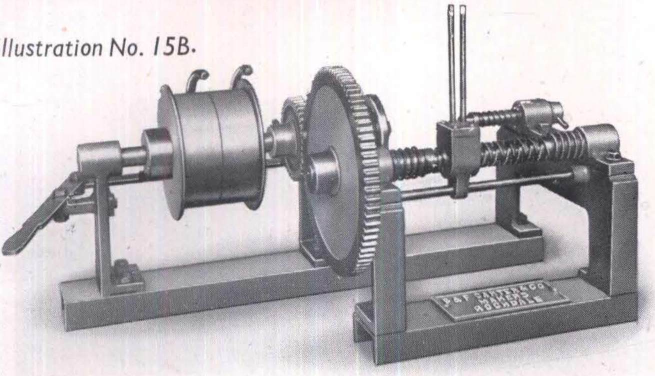
The Heads are suitable for Bobbins of 5$\frac{1}{4}$-in. diameter flanges × 3-in. traverse.
These Heads are driven by Rubber Covered Friction Driving Drums, revolving the bobbin at a speed of 500/550 r.p.m.
4 Pitches or Lays of wind can be obtained by Heart Cam Traverse Motion.
Automatic Stop Motion is fitted on each Head.
Machine can be arranged for Belt Drive, or Electric Motor through Multi Vee Belts.
All Metal Swifts for Wire Coils are operated automatically by the paying-out of Wire.
Heads can be fitted with Counters to indicate yardage wound.

or DETAILS SEE
Pages 93 and 94

Bobbin Winding Machines

For Electric Cables, Flexible Cords, Wires, Yarns, Polished Cotton, etc.

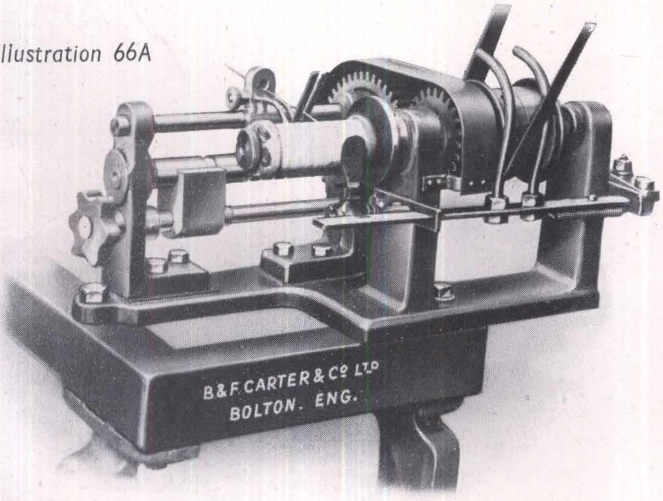
Illustration No. 15B.



Bench Type Large Bobbin Winding Machine

Size of Bobbin 12-in. diameter × 10-in. traverse. Bobbin rigidly held between the centres. Belt Drive. Automatic Stop Motion.

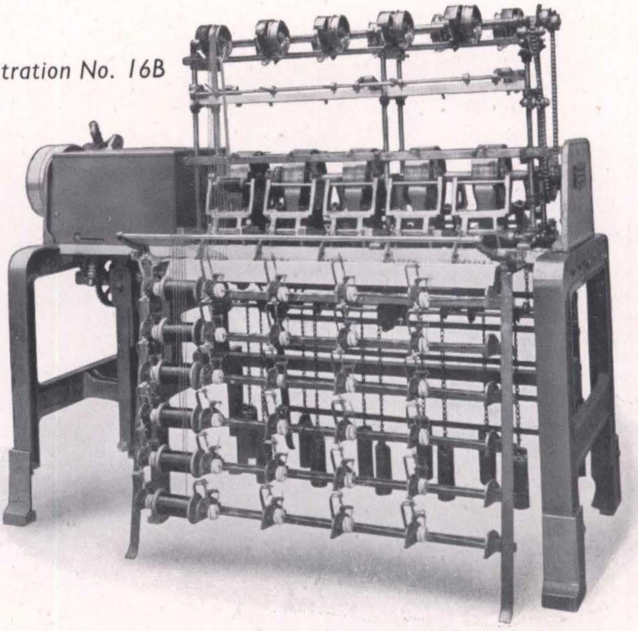
Illustration 66A



Bench Type Single Head Bobbin Winding Machine

Complete with trip motion to stop the head when the bobbin is wound to requirements. Made suitable for any traverse from 3-in. to 15-in. Single Pulley Drive. Device for centralising traverse beween bobbin flanges.

Illustration No. 16B



5-Drum 10 Spindle Double Flanged Bobbin Traverse Winder

For Polished Cotton Yarn, etc.

1. Constant Speed of Winding.
2. Production approximately 150-yards per minute per head.
3. Bobbin size, say 4-in. traverse.
4. Stop Motion to each yarn, and when bobbin is filled.
5. Creel for 6 Bobbins per winding spindle.
6. Maximum size of Creel Bobbin 6-in. overall × $3\frac{1}{2}$-in. diam. flanges.
7. Belt or Electric Motor Drive.
8. Machines made for any number of Bobbins.
9. Hard Winding obtained on polished yarn.
10. Machines for any number of bobbins manufactured.

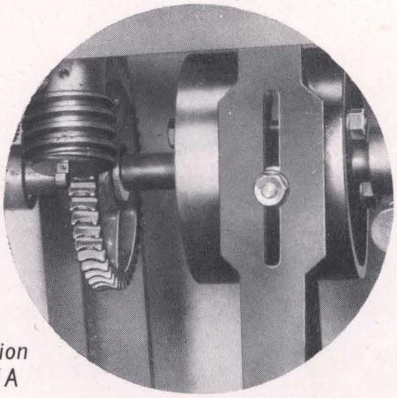


Illustration No. 121A

Drive and adjustment for Traverse for above machine

Cheese Yarn Winding

For Braiding Machines, etc.

for DETAILS SEE

Page 94

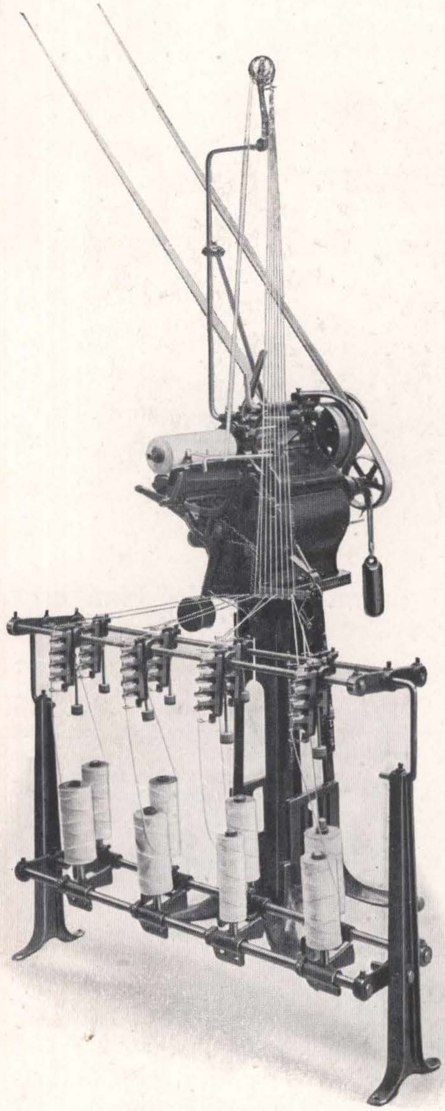


Illustration No. 39B.

Single Head Machine

Heavy Type for Winding Cheeses up to 8-in. Traverse

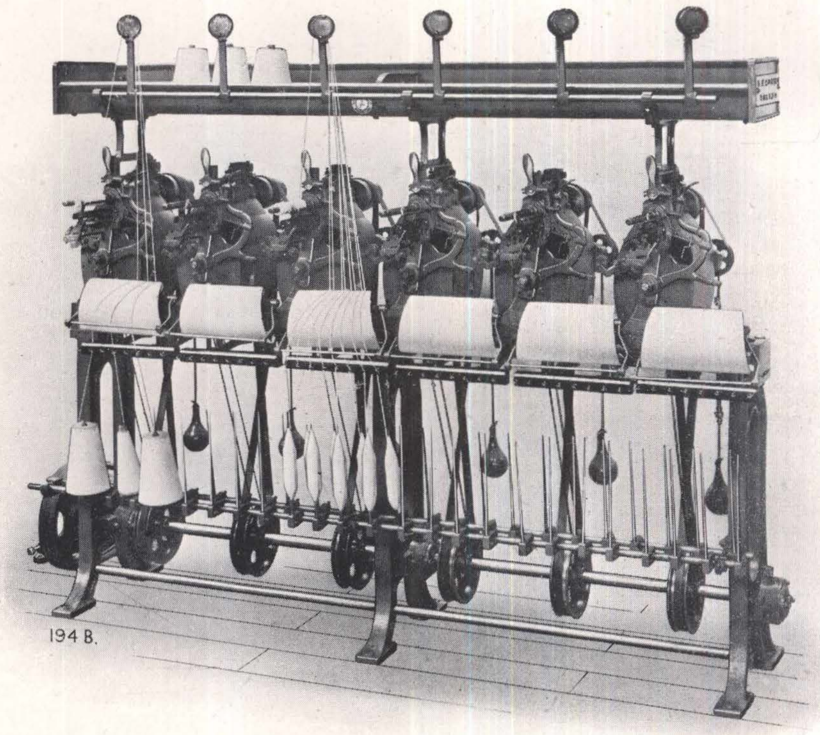


Illustration No. 194B.

Quick Traverse "Close" Winder

Containing 6 Heads all on one side, arranged to make parallel cheeses from 2-in. to 6-in. traverse on paper tubes, kindly state requirements when ordering. Creel arranged to wind from 1 to 8 ends up parallel, carried in an upright position and unwound over the top, with adjustable tension arrangement for same. The Winding Frame can be driven from Belt or Electric Motor Drive. Spindle Speed 900 revs. per minute.

r DETAILS SEE
Page 94

Winding Machines

With Infinitely Variable Control

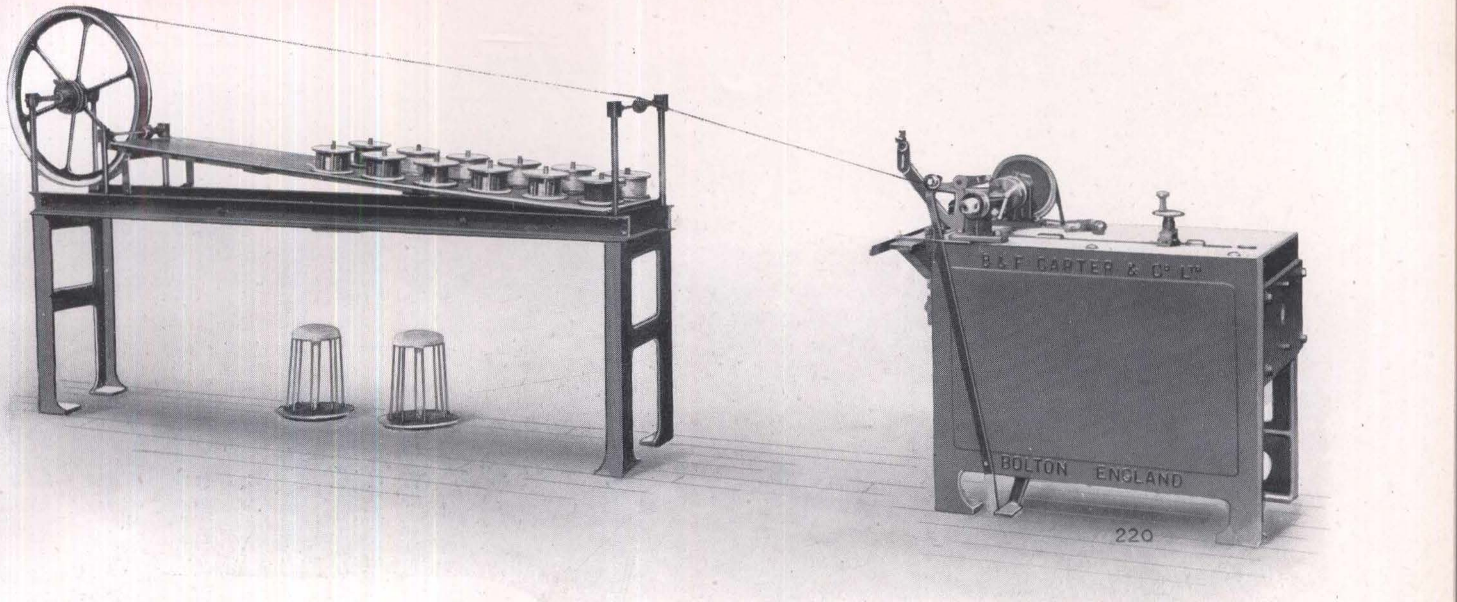


Illustration No. 220

Self-Compensating Wire Creel

Working in conjunction with the " Bolton " Universal Winder. Illustration No. 214A

For holding 12 Pay-out Bobbins of a maximum size of 6-in. between flanges × 6-in. diameter flange, or coils of wire on swifts up to 10-in. diameter.

This Creel is designed to give a perfect tension when winding high tensile steel, brass or copper wire.

The tension on each strand is controlled by a common friction device, which is easily adjustable to give any required tension.

By using this Creel for winding your braider bobbins, a perfect braid is assured, as loose strands are eliminated.

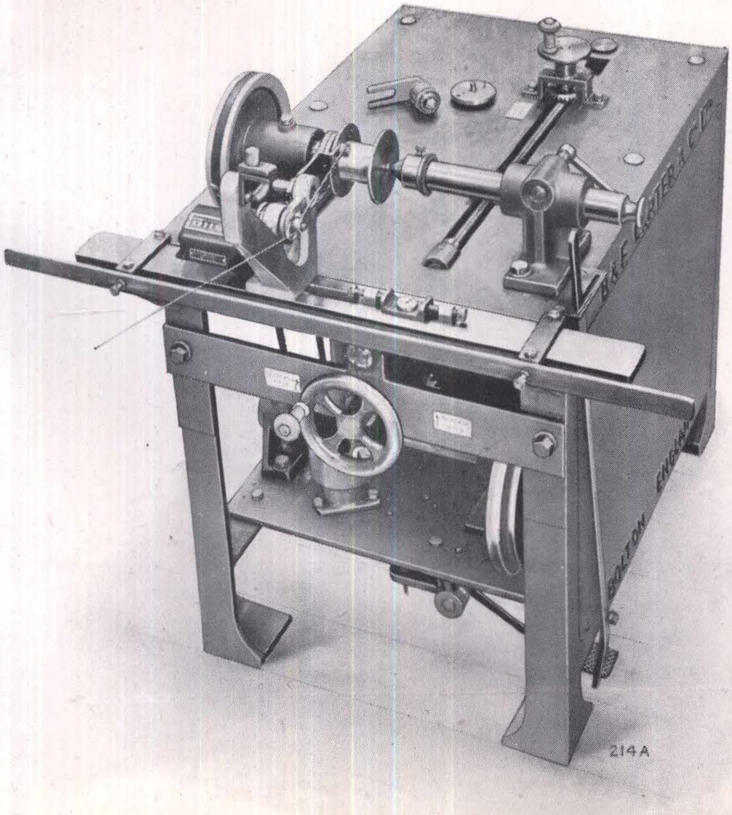


Illustration No. 214A

" Bolton " Universal Single Bobbin Wire Winding Machine

Patents applied for

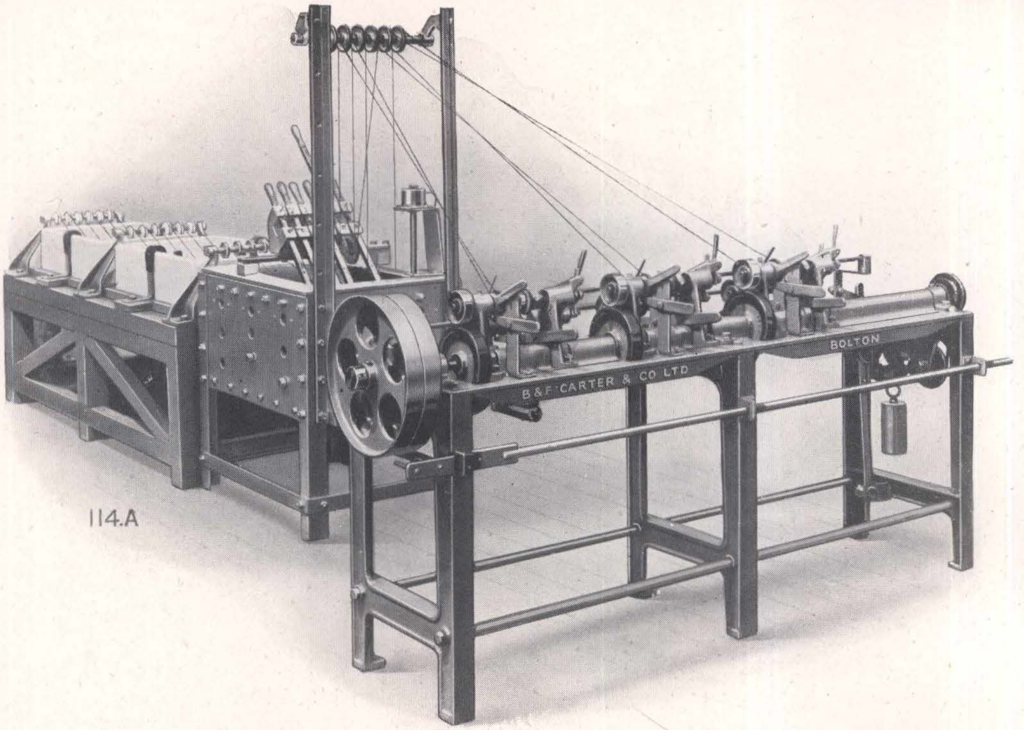
Suitable for winding single or multiple ends up parallel in high tensile hard steel, copper, brass or aluminium wire.

1 Infinitely variable traverse between $1\frac{3}{4}$-in. and 6-in., which can be varied whilst the machine is winding.

2 Pitch or lay of wind can also be adjusted whilst the machine is winding. Minimum Pitch or Lay, ·004-in. Maximum Pitch or Lay, ·477-in.

3 Machine arranged for **three bobbin speeds** up to a maximum of 550 revolutions per minute.

for DETAILS SEE
Page 102



114.A

Illustration No. 114A

Fine Wire Tinning Plant

For 6 Wires suitable for wire from ·0076-in. diameter up to ·028-in. approximately.

Production :—150/250-ft. per minute per wire.

This plant comprises the following units. :—

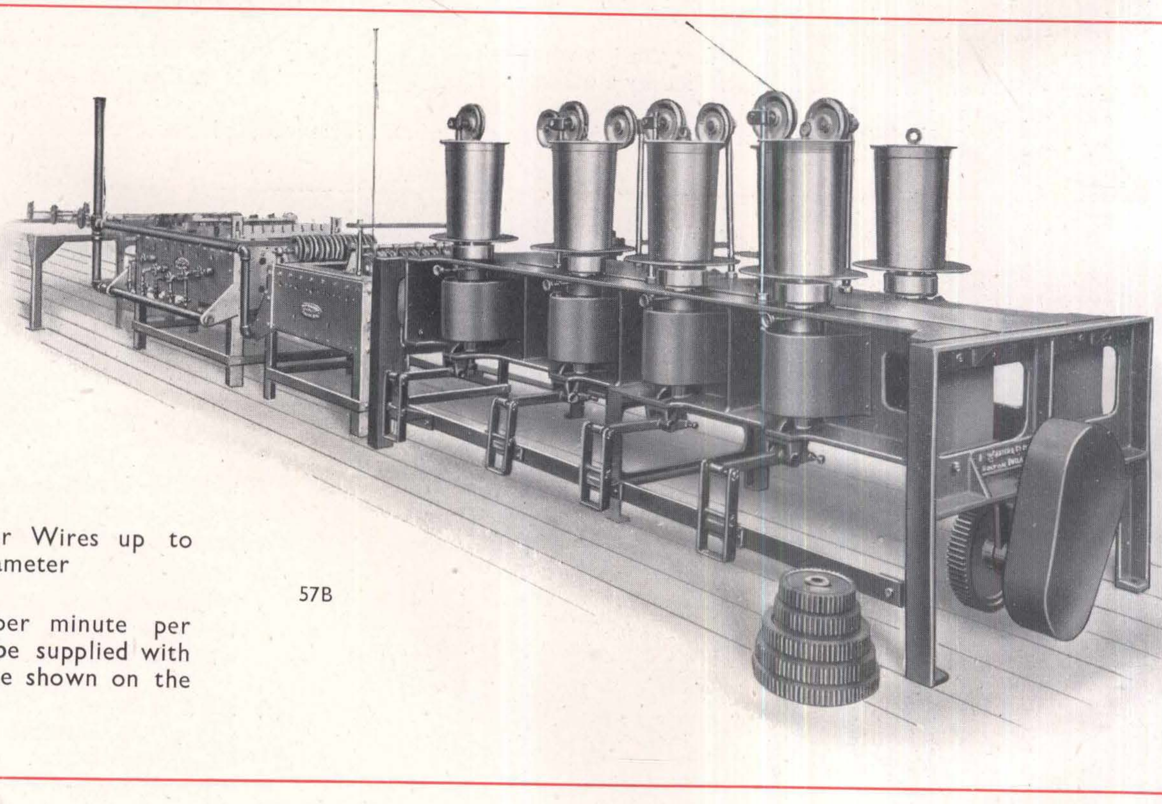
1. Two porcelain baths for Fluxing and cleaning the wires.
2. Gas-heated Tinning Bath fitted with Automatic Temperature Control. Guide Bars for immersing and withdrawing wires from bath. Adjustable Wipers.
3. Bobbin Take-up Stand ($2\frac{1}{8}$-in diameter × $2\frac{11}{16}$-in. traverse) Heart Cam Traverse Motion common to all spindles. Each spindle independently operated.

Illustration No. 57B

8-wire Plant with Vertical Capstans

For Coil Winding for Wires up to ·066-in. diameter

Production:—300-ft. per minute per wire. Capstans can be supplied with reverse Taper to those shown on the illustration.

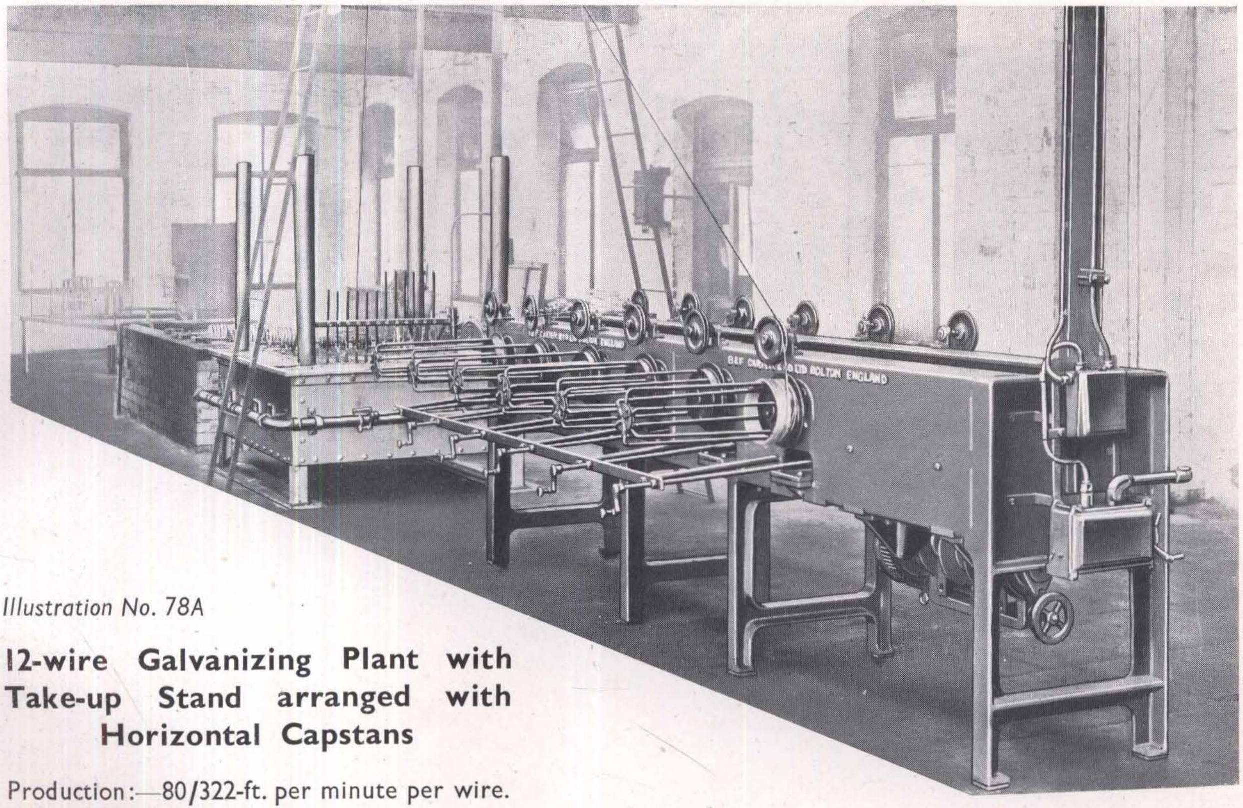


57B

r DETAILS SEE

Page 102

Wire Galvanizing Plant

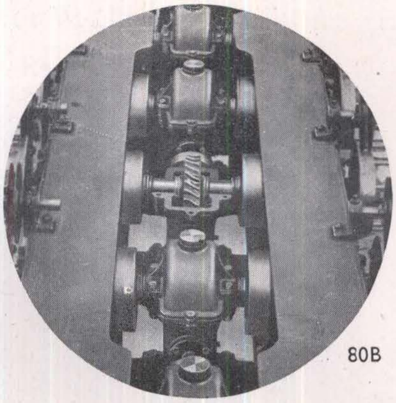


78A

Illustration No. 78A

12-wire Galvanizing Plant with Take-up Stand arranged with Horizontal Capstans

Production:—80/322-ft. per minute per wire. Also manufactured with Vertical Capstans (see *page* 29) or with Reel Take-up Stands



80B

Illustration No. 80B

Close-up View of Worm and Worm-wheel Drive to Horizontal Capstans

On this type of plant acid resisting materials used where necessary

for DETAILS SEE
Page 98

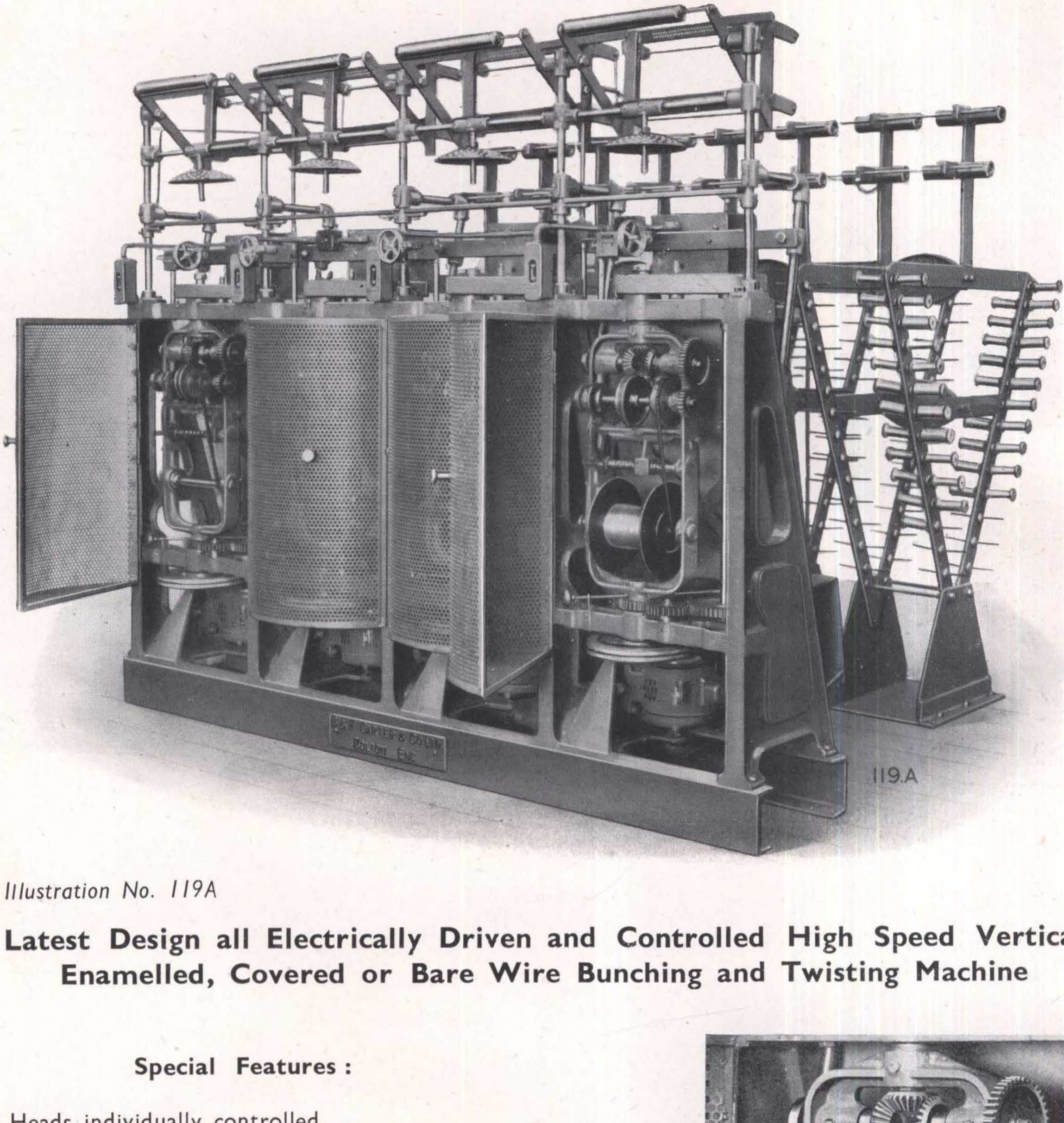


Illustration No. 119A

Latest Design all Electrically Driven and Controlled High Speed Vertical Enamelled, Covered or Bare Wire Bunching and Twisting Machine

Special Features :

1. 4 Heads individually controlled.
2. High Production, 1400-in. per minute based on 1-in. pitch of lay.
3. Minimum Floor Space.
4. Reel Size 10-in. diameter × 6-in. traverse.
5. Cradle stops within 3-5 revolutions, if wire breaks or creel bobbin runs out.
6. Electric safety lock for reel spindle.
7. Creels made to accommodate any number of supply bobbins.
8. Measuring Counter fitted on each head.

See also 2 Head Machine on page 32

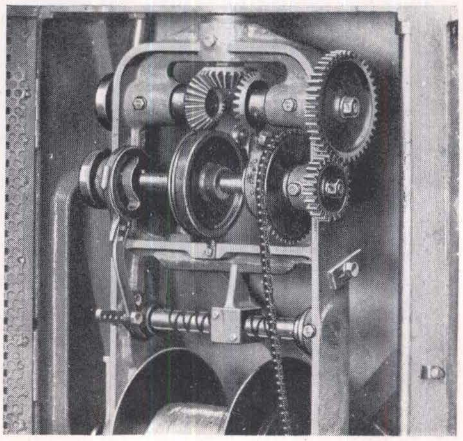
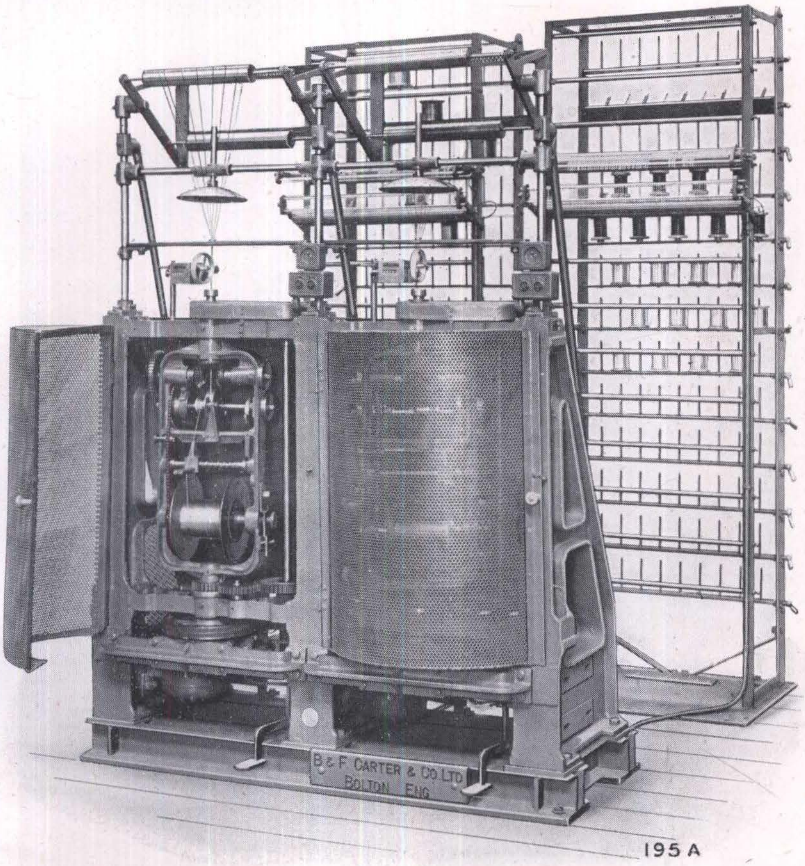


Illustration No. 234J.

Close up View of Cradle with Drive to Reel and Traverse



195 A

Illustration No. 195A

2-Head Fine Wire Bunching and Twisting Machine

For Special Features, see page 31.

llustration No. 172

Horizontal 2-Head Sensitive Bunching or Twisting Machine

For Fine Enamelled, Covered or Bare Wires

Special Features :—

1 Production 2,200 twists per minute per head.

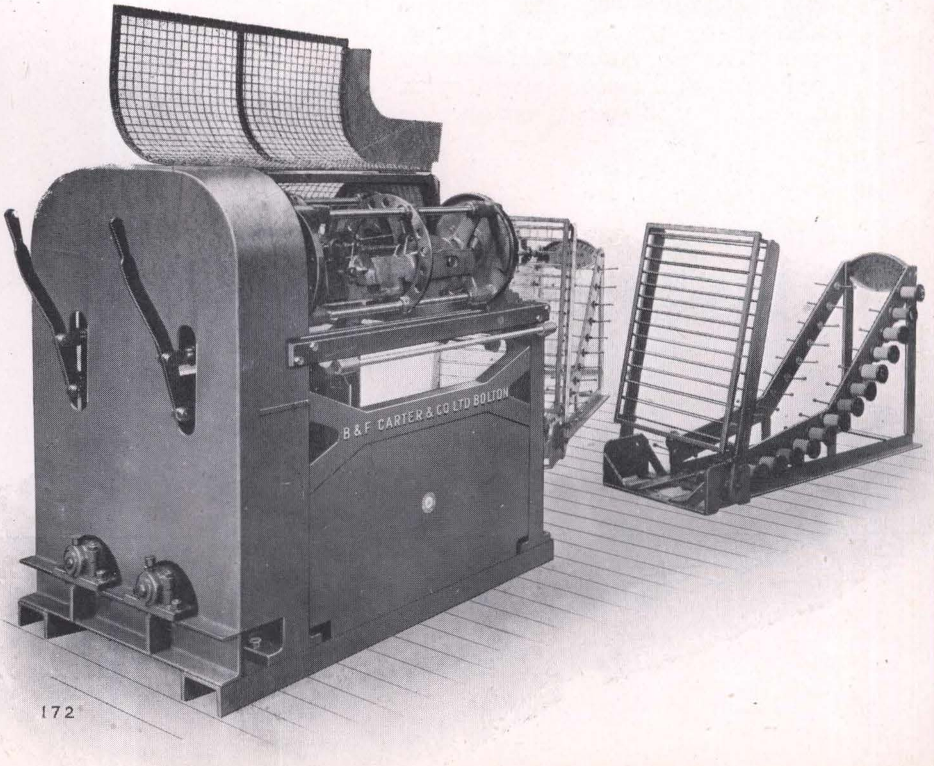
2 Capacity from diameter wire
   47 to 30 S.W.G.
   ·002-in. to ·012-in.
   ·050 mm. to ·305 mm.

3 Maximum Reel Size, 6-in. diameter × 3-in. traverse.

4 Electric Motor Drive to each head.

5 Measuring Counter fitted on each head.

6 Creel with Electric control to each wire, supplied to suit requirements.



172

Drum Stands

For Longitudinal Covering Machines

for DETAILS SEE
Page 100

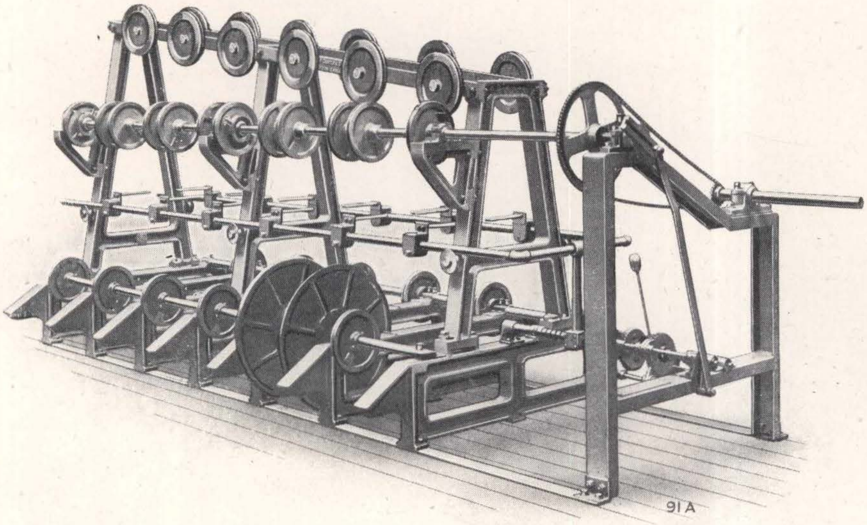


Illustration No. 91A

Double-sided Take-up Stand

Suitable for 12 Drums 25-in. diameter × 12-in. traverse or as requirements.

Infinitely variable traverse motion to serve the drums operated by single screw and pawl and ratchet wheels.

Drive to Take-up Drums arranged with thumb screw control ensuring very fine adjustment of the friction drive to the drums, which are driven from a common shaft so that 6 individual drives can be taken down to 6 drums situated on either side of the stand.

Electric Motor Drive with Multi Vee Ropes or Belt Drive.

Pay-out Stands

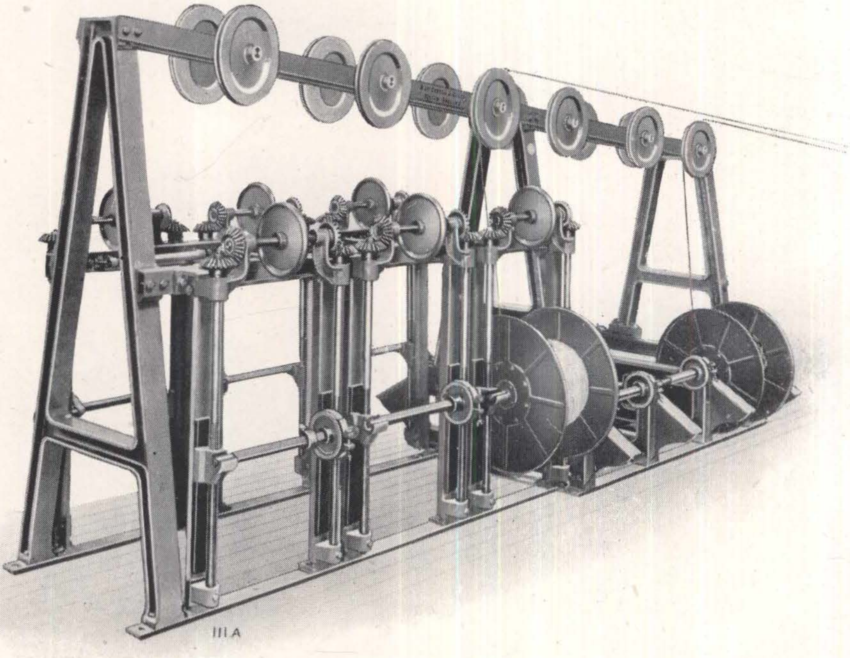
Similar in design with Band Friction Brake, controlled by thumb screw, without Traverse Motion and drive to drums. Stands shown below with quick screw raising and lowering motion.

Illustration 111A

This Stand for holding Drums or Reels :

6—3-ft. 0-in. diameter.

6—2-ft. 1-in. diameter.



r DETAILS SEE
Page 98

Wire Covering Machines

Speed 4,000 r.p.m.

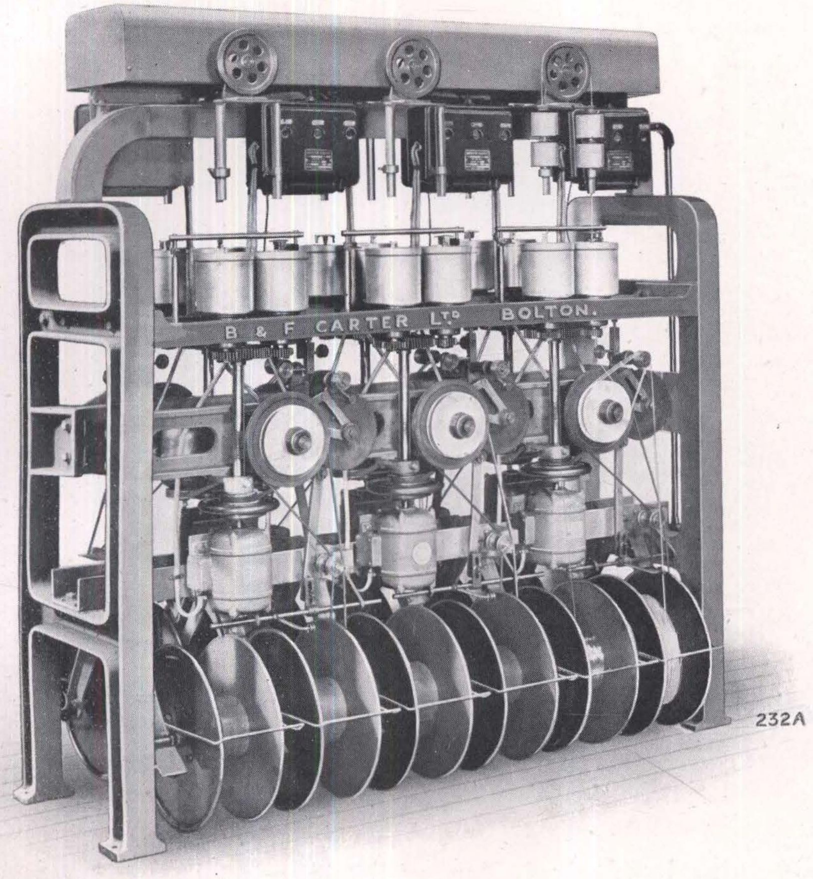


Illustration No. 232A

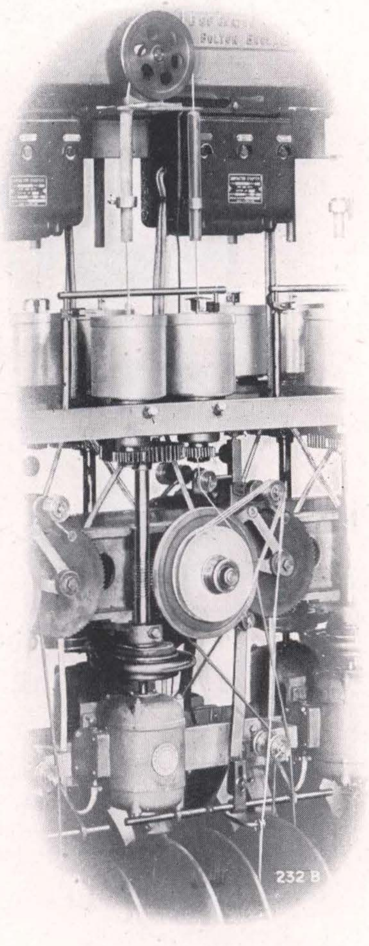


Illustration No. 232B

Close-up of 1 Head

"Lancaster"
Electrically Driven and Controlled 6-Head High Speed continuous Wire Cotton Covering Machine

For Armature, Blasting, Telephone, Bell Wires, etc. With double or single covering of silk, cotton or other suitable material.

The covering yarn is led from the supply cheese to the Die and Burnisher in perfect tape form, ensuring minimum increase in diameter, and maximum covering obtained.

Each Head arranged with Compensating Truly Balanced Canister Flyers, made in Cartlite Metal, which limits breakages of the yarn to a minimum, giving the lay of the yarn on the wire a consistent tension.

Special Features :—

1. Production, 4,000 turns per minute, each flyer.
2. Size of cheese, $3\frac{1}{4}$-in. diameter × $2\frac{1}{2}$-in. traverse.
3. Magazine for 3 reserve cheeses of yarn to each flyer.
4. Capacity, 36 S.W.G. (·0076-in.) to 16 S.W.G. (·064-in.) (·1777 mm. to 1·625 mm.).
5. Take-up and Pay-out Reels, 16-in. diameter flanges × $5\frac{1}{2}$-in. traverse.

Electrical Devices fitted to this Machine :—

1. Stop Motion to each Flyer when supply of yarn fails.
2. Each head fitted with Brake Motion and Motor Drive.

N.B.—Belt Driven Machines can be supplied on request.

Covering by Modern Methods

for DETAILS SEE
Page 98

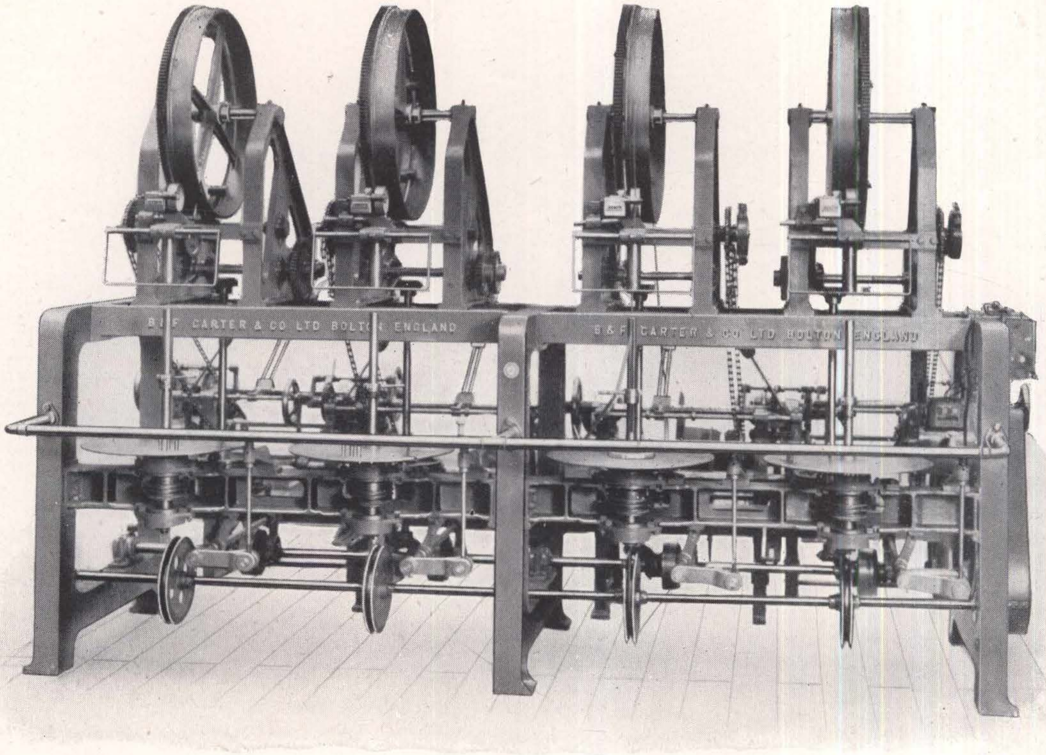

B & F CARTER & CO LTD BOLTON ENGLAND
B & F CARTER & CO LTD BOLTON ENGLAND

Illustration No. 93A

93A

4 Independent Head Vertical Taping Machines

For Vulcanized Rubber and Other Cables

Using Insulating, Double Varnished Cambric Impregnated with Oil, Yellow varnished Tape, etc. The Taping Heads are made of Cartlite Metal, with tensioning device, and quick adjustment for setting the angle of the tape.

Incorporating the following build-up :—

1. Production :—Taping Speeds 1035, 900 and 785 turns per minute.
2. Taping Discs 15-in. diameter up to 1$\frac{3}{8}$-in. wide.
3. Magazine for 6 reserve taping discs.
4. Capacity up to $\frac{3}{4}$-in. approximate diameter cable.
5. Haul-off Capstan 30-in. diameter.
6. Measuring Counter fitted on each head.
7. Clutch and Brake interconnected prevents over-running on each head.

Illustration No. 252 shows the finished Taped cable, as it leaves the machine, being wound on to Steel Vulcanizing Drums at the rear of the machine, to be taken for curing.

This method is efficient and is a time saver.

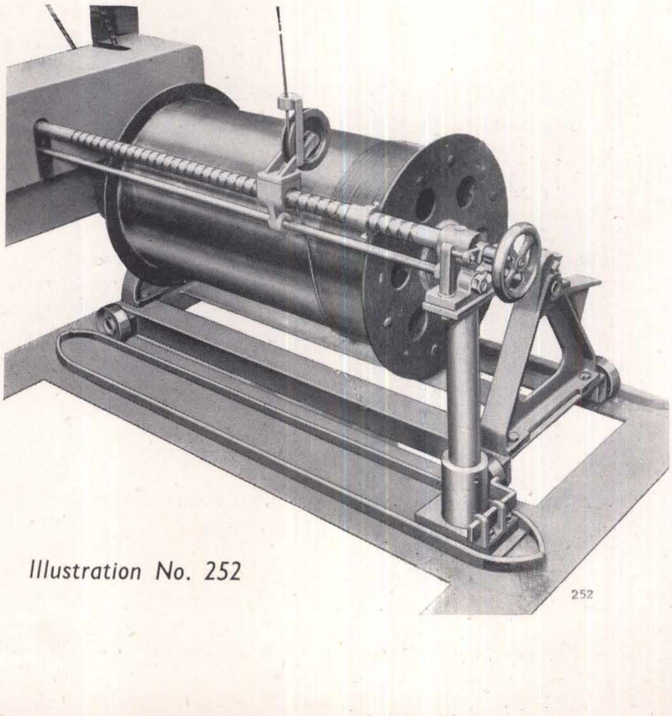


Illustration No. 252

252

or DETAILS SEE

Page 99

Compounding Plant

For Electric Cables

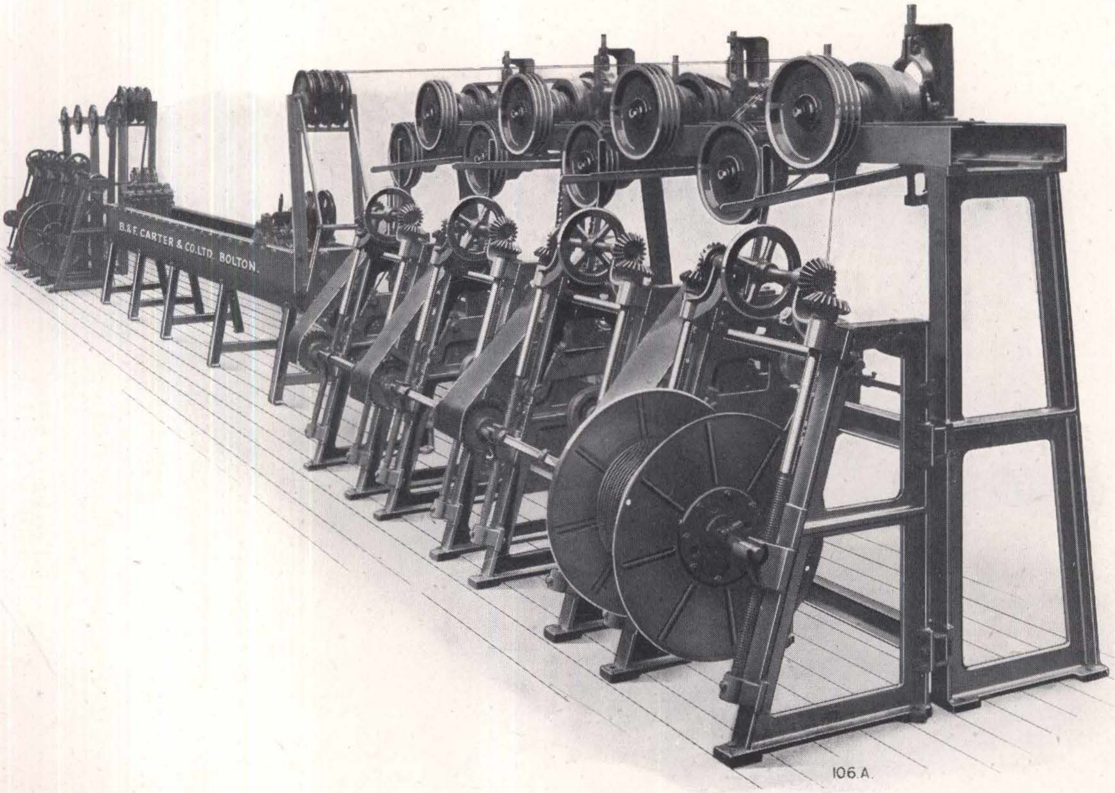


Illustration No. 106A

4 Drum Unit

Pay-out Stand :—

1. Size of Drum 36-in. diameter × 14-in. overall width
2. Quick Screw Raising and Lowering Motion
3. Band Friction Brake controlled by Thumb Screw to regulate the tension

Steam Jacketed Steel Compound Tank :—

1. Maximum Working Pressure 160-lb. per sq. in.
2. Overall length 15-ft., for long period of immersion
3. 4-grooved Rollers for immersing and withdrawing the Cable from the Compound

Take-up Stand :—

1. Production 300 and 400-ft. per minute, speed of compounding, each head
2. Highly polished grooved Haul-off Capstans 12-in. diameter, arranged with Scrapers to remove surplus Compound from the Grooves
3. Each Head controlled through Friction Clutch
4. Size of Drum 36-in. diameter × 14-in. overall width
5. Quick Screw Raising and Lowering Motion
6. Positive Drives are used throughout the Stand
7. Individual Variable Traverse to each Drum
8. 2-speed Electric Motor Drive

CHANGE OF COMPOUND

For convenience, Auxiliary Tanks can be supplied to fit into the main tank for short runs for change of Compound Colour

For gas-heated Water Jacketed Steel Tanks, *see page* 68

Frictionless Guides used throughout the Plant

Twinning and Laying-up

Of various types of cables, including flexibles, unkinkable cords, for domestic appliances, etc.

for DETAILS SEE
Page 99

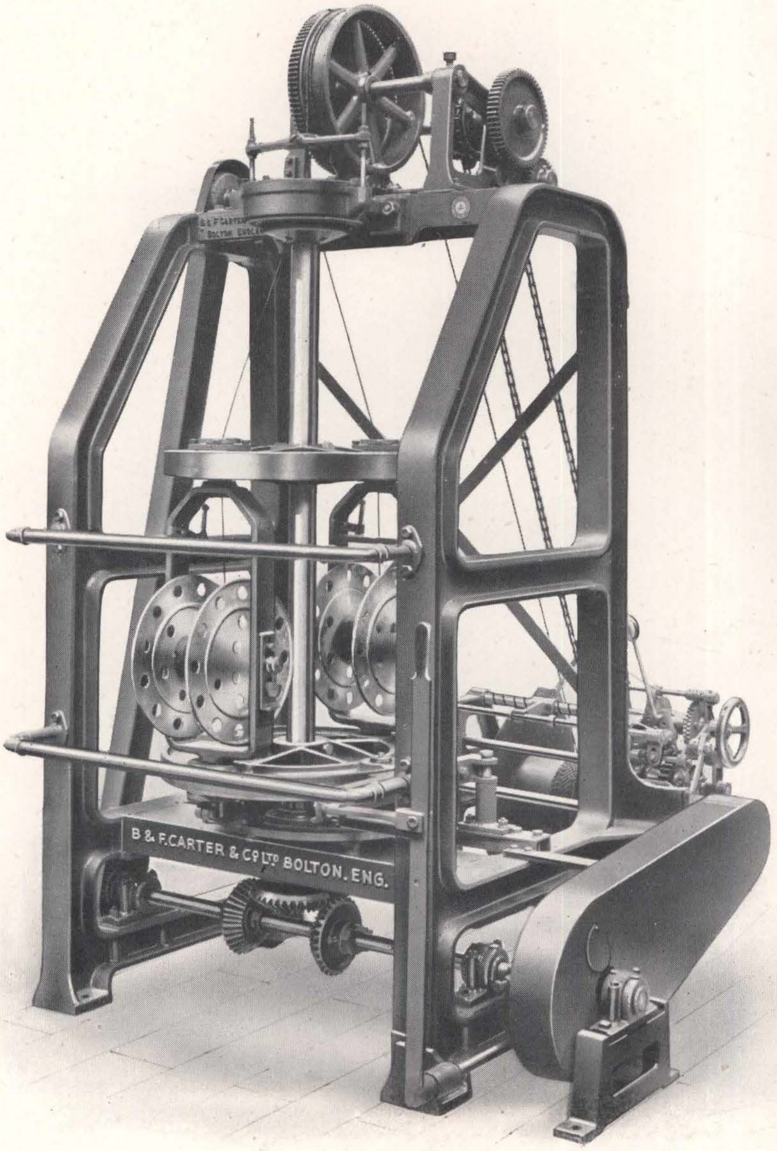


Illustration No. 98A

Vertical Twinning or Laying-up Machine

Either Right or Left-hand Twists or Lays

1. Arranged with two steel carriages
2. Size of Reel 15-in. diameter × $7\frac{1}{4}$-in. traverse
3. Production Twists or Lays 250 per minute
4. Haul-off Capstan 16-in. diameter
5. Range of Lays 1-in. to 8-in.
6. Electric Motor Drive through Multi Vee-belts and Friction Clutch
7. Brake comes into operation when Clutch is disengaged, to avoid over-running

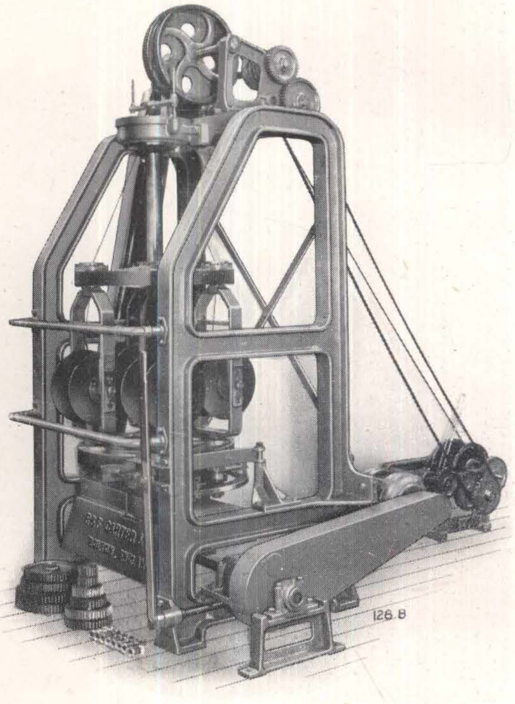


Illustration No. 128B

Vertical Laying-up Machine

1. Arranged with four steel carriages
2. Size of Reel 12-in. diameter × 6-in. traverse
3. Twists or Lays 250 per minute

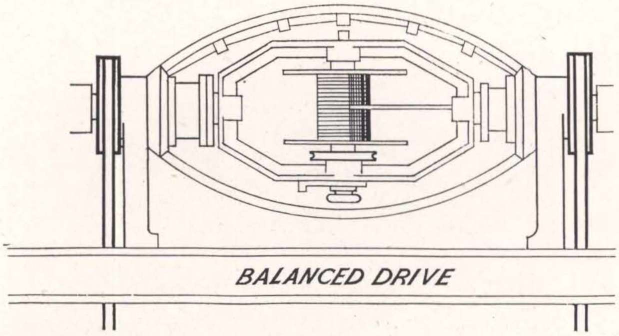
This Machine will Twist or Lay either 2, 3 or 4 cores

EFFICIENT CARRIERS PAY

Photograph of actual products with 3 strands shown on page 110, Item C.

Conductors and Cables

For Lighting, Domestic Appliances, Trailing and Field Telephones



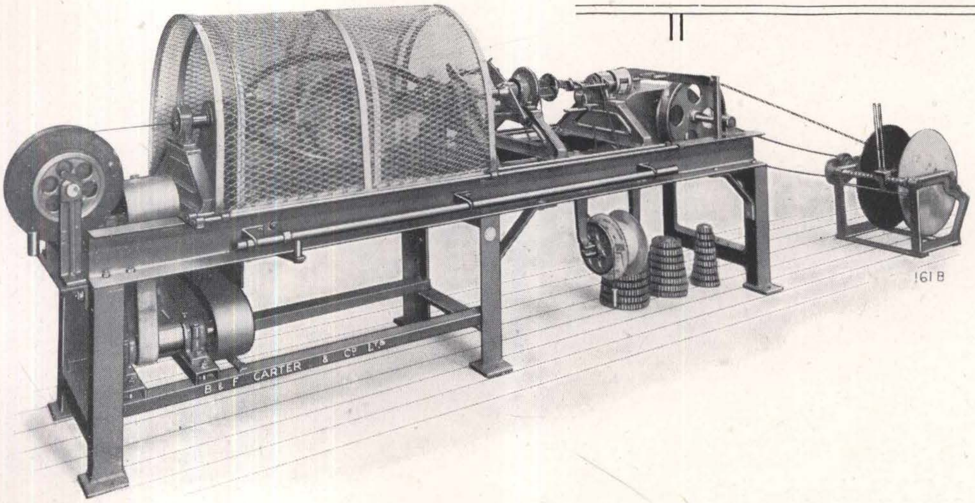


Illustration No. 161B

High-speed Horizontal Twinning Machine (Either Right or Left Hand Twists or Lays)

For various types of cables, including flexibles, unkinkable cords, for domestic appliances, etc.

Production, 450 twists or lays per minute.

Suitable for twisting together two flexible wires or conductors with provision for Filler Bobbins and Cotton Lapping Head.

One reel is carried in a suspended cradle in the accurately balanced frame on the machine. This will carry a maximum reel of 18-in. diameter.

The material from the second supply reel is carried through the Flyer Spindle, Eyelets on the Flyer Frame, and the second Flyer Spindle which supports the Filler Bobbin Frame.

The Supply Reel is easily threaded through the first Flyer Spindle and is visible on the Flyer Arm. This is a great advantage, the insulated conductor can be threaded through the eyelets in a very short time.

The two conductors together with the fillers pass through the spacing plate, and then through the Dies to the centre of the Cotton Lapping Head, the latter being fitted with Truly Balanced Canister Flyer made in Cartlite Metal. A Magazine is fitted for holding two reserve cheeses of yarn to enable a continuous run to be obtained.

Transmission from an Electric Motor has been very carefully designed, the Flyer Frame being driven from both ends, thereby ensuring a balanced drive and eliminating vibration.

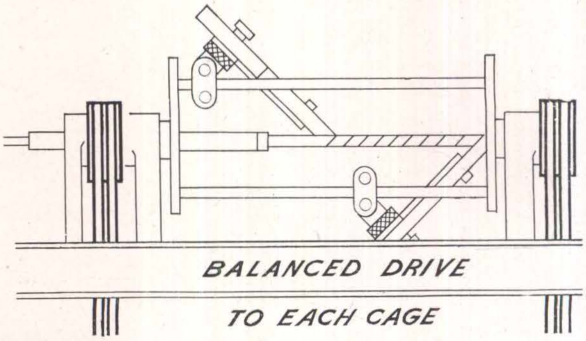
Photograph of actual products shown on page 110, Item E.

Safety Locking Device for Reels, and embodying other refinements

Paper Lapping Machines

For Electric Cables, etc.

for DETAILS SEE
Page 98



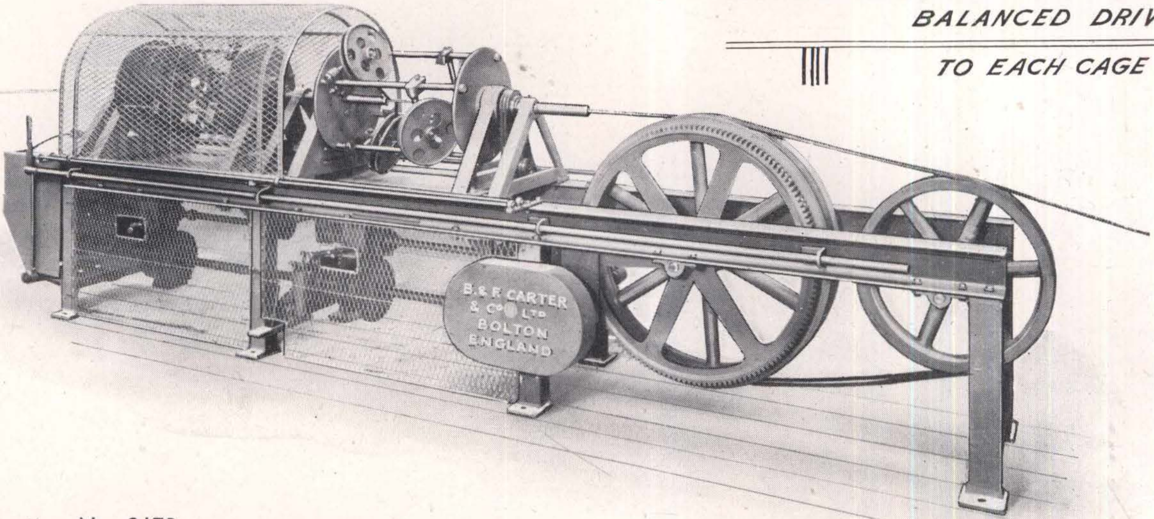
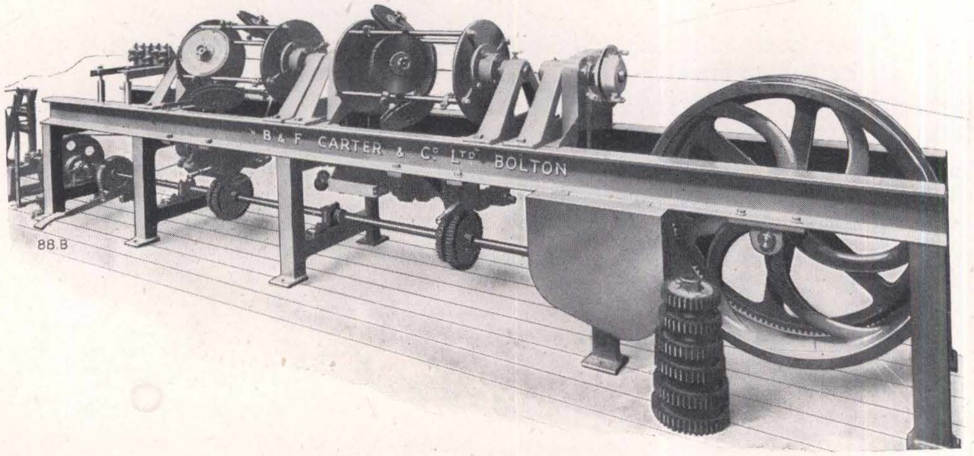


Illustration No. 217B

2-Head Horizontal Machine For Round Cables

1 Production, 300 laps per minute.
2 Size of Paper Disc, 10-in. diameter.
3 Machine supplied with any number of Heads and various numbers of Papers per Head.
4 Paper Discs adjustable for angular and axial adjustment.
5 Sensitive Paper Tensioning Device not affected by centrifugal force.
6 Suitable Gears fitted to each head to give Forward, Reverse and Neutral positions.
7 Balanced double drive to heads to eliminate vibration.
8 Stationary tubular dies with longitudinal setting to each head.



NOTE

Vertical Paper Lapping Machines also supplied

Illustration No. 88B **2-Head Horizontal Machine** For Rectangular Strip

With Straightening Unit, 4 Papers per head and Cotton Lapping Head arranged with Compensating Truly Balanced Flyer which limits breakages of yarn to a minimum. Giving the lay of the yarn on the strip a consistent tension. Construction of this machine is similar to that described above.

r DETAILS SEE
Page 100

Rubber Lapping Machines

For Electric Cables, Etc.

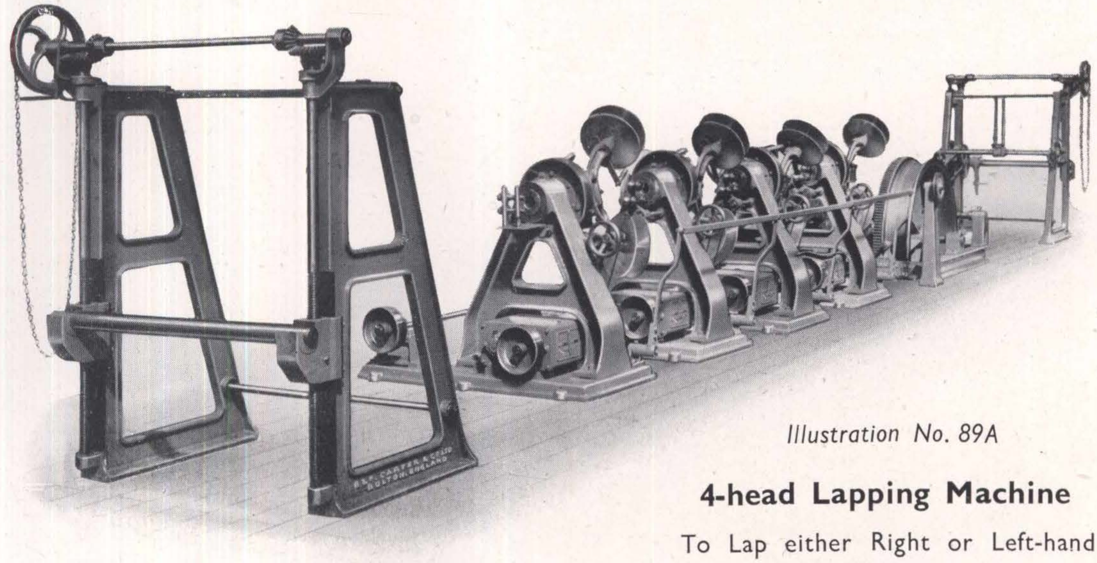


Illustration No. 89A

4-head Lapping Machine

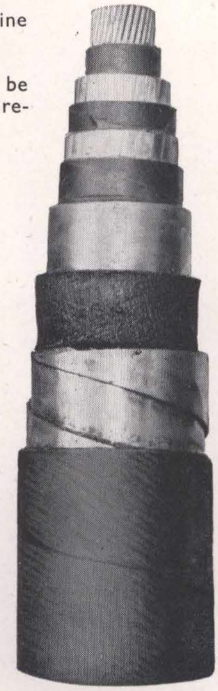
To Lap either Right or Left-hand

1. Production 200/220 laps per minute
2. Capacity 3-in. diameter cable
3. Each head fitted with 2 Reels of rubber 14-in. maximum diameter
4. Sensitive Rubber Tensioning Device not affected by centrifugal force
5. All Rubber Reels adjustable for angular and axial adjustment
6. Each head is a self-contained unit with Variable Speed Gear fitted to control the pitch or overlap of Rubber Tape
7. Measuring Unit fitted to each Machine
8. Drive by Electric Motor
9. Take-up and Pay-out Stands can be supplied to suit customer's requirements

Single Core High Voltage Cable (33,000 volts)

Three Core Round Cable (11,000 volts)

Single Core Cable (660 volts)



Triple Concentric Cable (660 volts)

Overhead and Underground Transmission Cables as produced on our machines

Taping Machine

For Metal and Fabric

for DETAILS SEE
Page 103

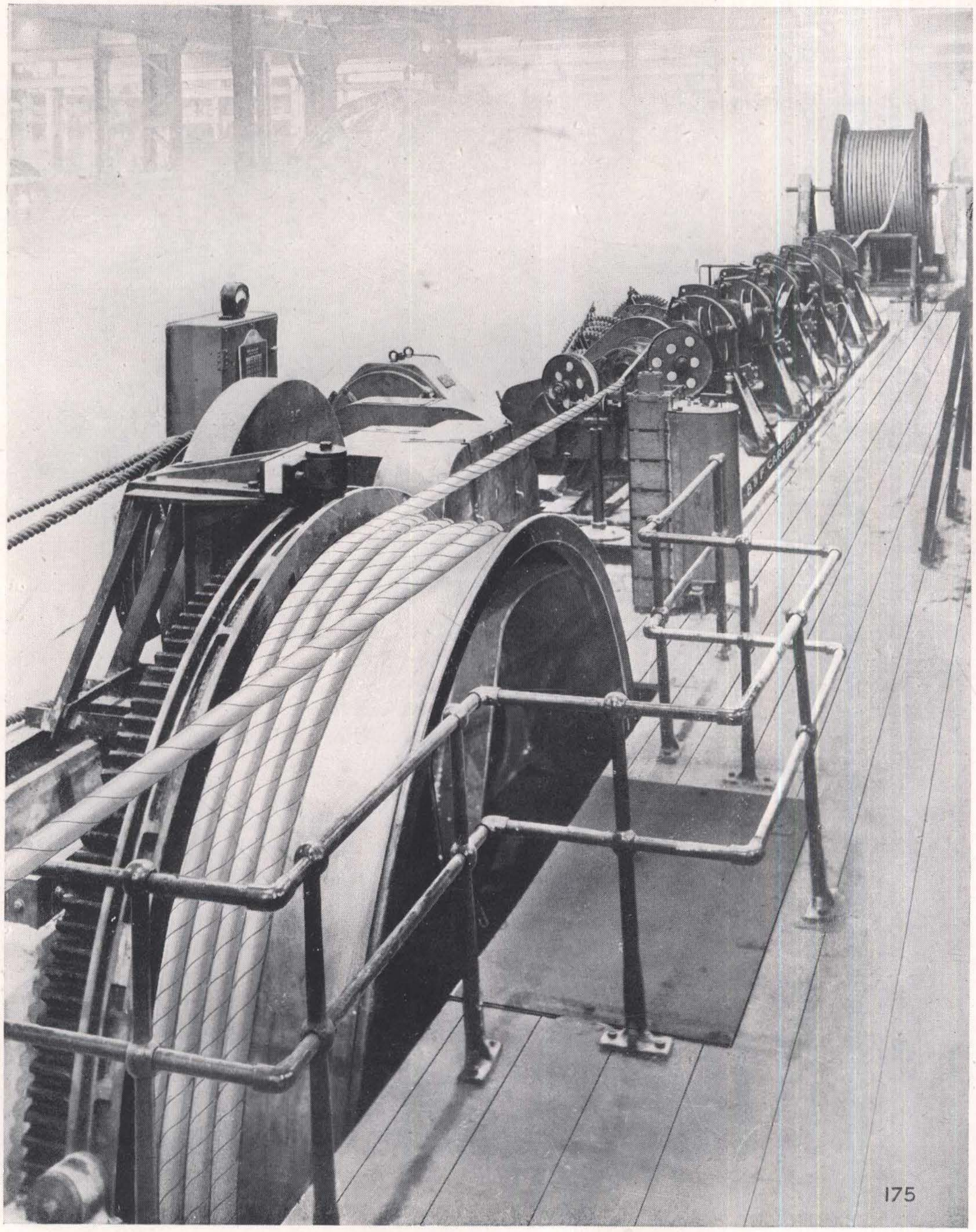


Illustration No. 175

Heavy Type 7-head Metal and Fabric Taping Machine

For Gas-filled Transmission Electric Power Cables from 1-in. to 4½-in. (after taping)

Comprising seven heads in three banks of 2 fabric, 4 metal and 1 fabric
Each head is fitted with 2 Taping Discs, the three banks can be run at different speeds
The 10-ft. diameter Haul-off Capstan is driven by heavy steel gearing
Mounted on the Capstan is a steel fleeting ring, supported and held sideways by hardened steel rollers
The whole Machine driven by Electric Motor Drive controlled by heavy Drum type starting gear

Further description and close-up views shown on opposite page

r DETAILS SEE
Page 103

Taping Machine

For Metal and Fabric

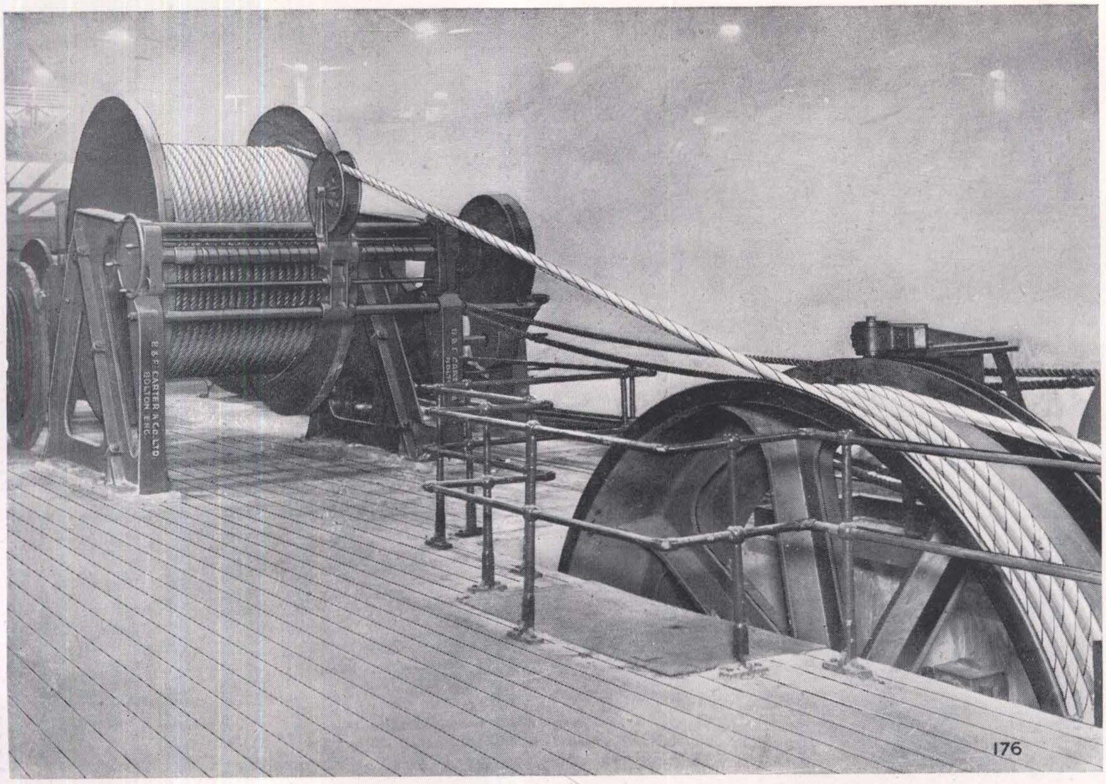
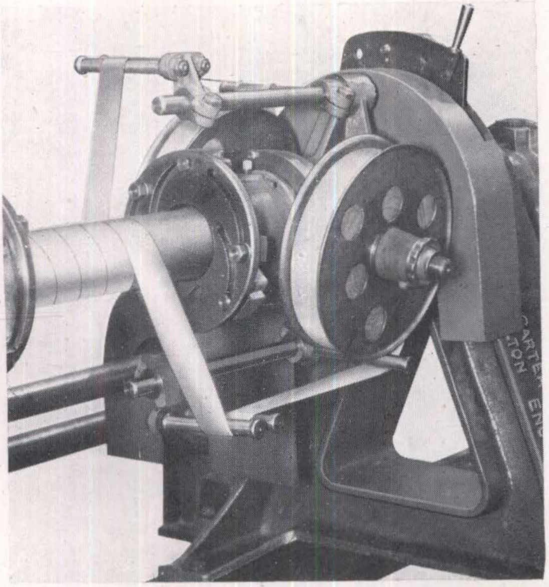


Illustration No. 176

Haul-off Capstan and Take-up Stand

For Drums 10-ft. diameter × 5-ft. traverse which is infinitely variable



155B

Illustration No. 155B

Close-up of Metal Tape Head

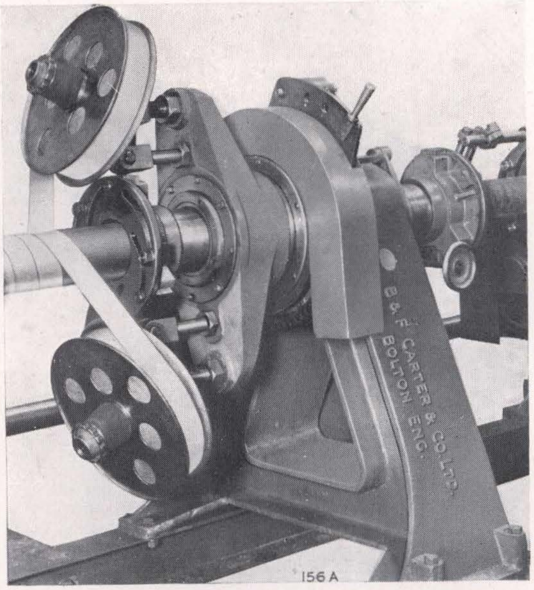


Illustration No. 156A

Close-up of Fabric Tape Head

Brief Particulars :

Capacity—Cables 1-in. to 4½-in. diameter after taping
Taping section comprises—2 Fabric, 4 Metal and 1 Fabric Head
Size of Metal Discs—15-in. diam. × 1-in. to 3½-in. wide
Size of Fabric Discs—15-in. diam. × ¾-in. to 2-in. wide
Self-Centering Roller Die Boxes with axial adjustment

Each Taping Head arranged with Right, Left and Neutral Positions

Lays—

Speeds ..	125	150	175	200
Range ..	3″ to 10″	2½″ to 8½″	2⅛″ to 7⅛″	2″ to 6⅜″

Taping Head

for DETAILS SEE

Page 99

Illustration No. 249

Taping Head for Stranding and Laying-up Machine

Close-up view of Tape Lapping Unit as fitted to the Stranding and Laying-up Machines on pages 42B, 43 and 44

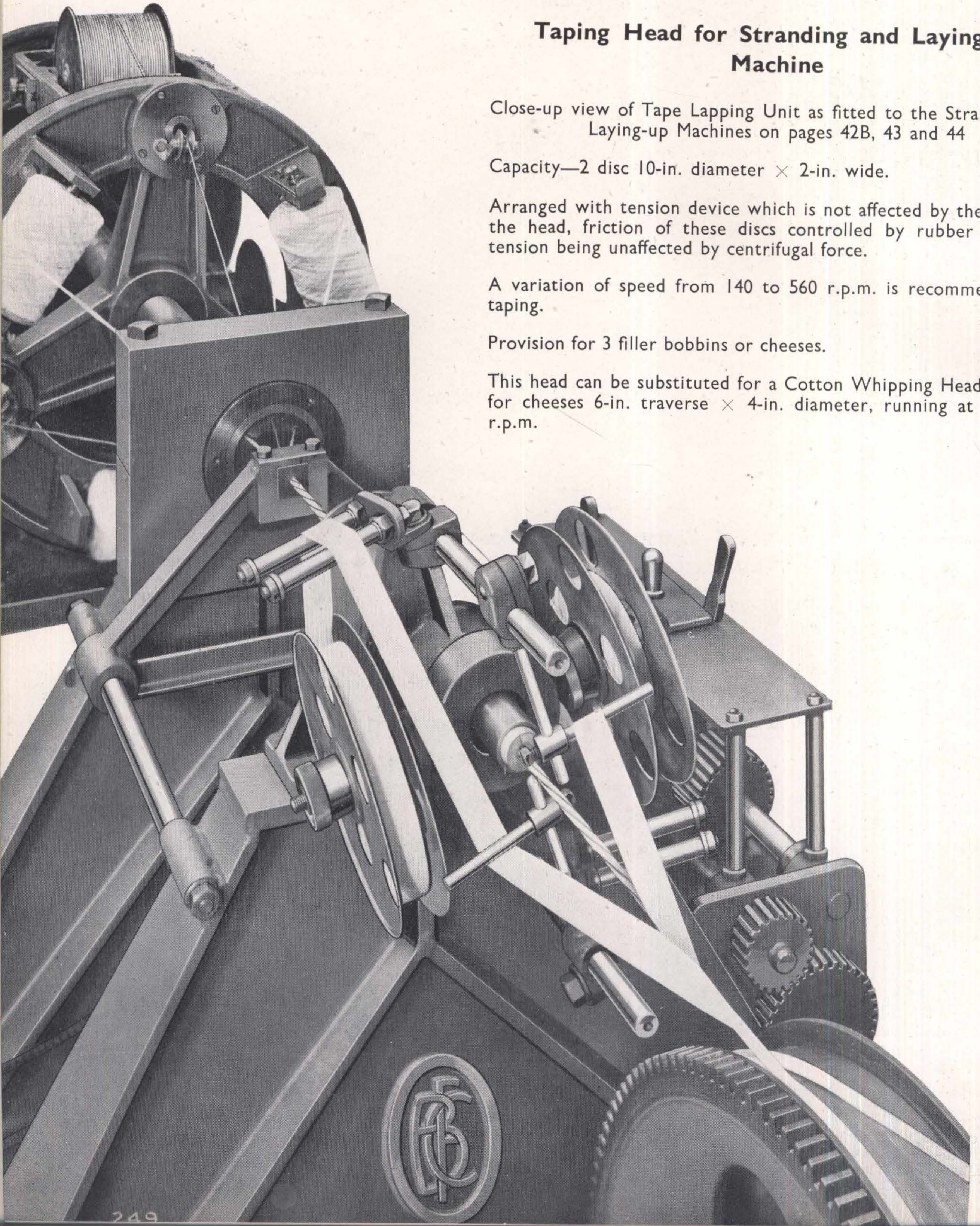
Capacity—2 disc 10-in. diameter × 2-in. wide.

Arranged with tension device which is not affected by the speed of the head, friction of these discs controlled by rubber cushions, tension being unaffected by centrifugal force.

A variation of speed from 140 to 560 r.p.m. is recommended for taping.

Provision for 3 filler bobbins or cheeses.

This head can be substituted for a Cotton Whipping Head, suitable for cheeses 6-in. traverse × 4-in. diameter, running at 350/1400 r.p.m.



r DETAILS SEE

Page 99

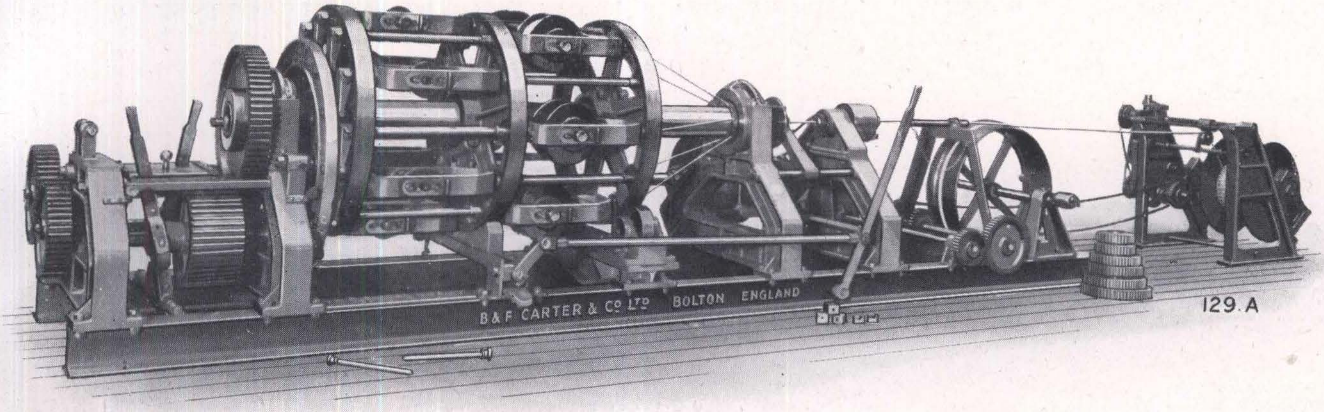


Illustration No. 129A

" Manchester " Type High-Speed 12-Bobbin Single Cage Horizontal Wire Stranding Machine

fitted with De-torsioning Rings

1. Size of Bobbin 9½-in. × 4½-in. traverse.
2. De-torsioning Ring fitted.
3. Safety locking device on spindles.
4. Cast-steel truly balanced carriages.
5. Neutral, forward and reverse positions.
6. Cotton whipping head fitted (Taping Head if desired).
7. Measuring Indicator fitted.

Production—180 twists or lays per minute.

This Machine can be all electrically driven and controlled as the Machine shown on page 43.

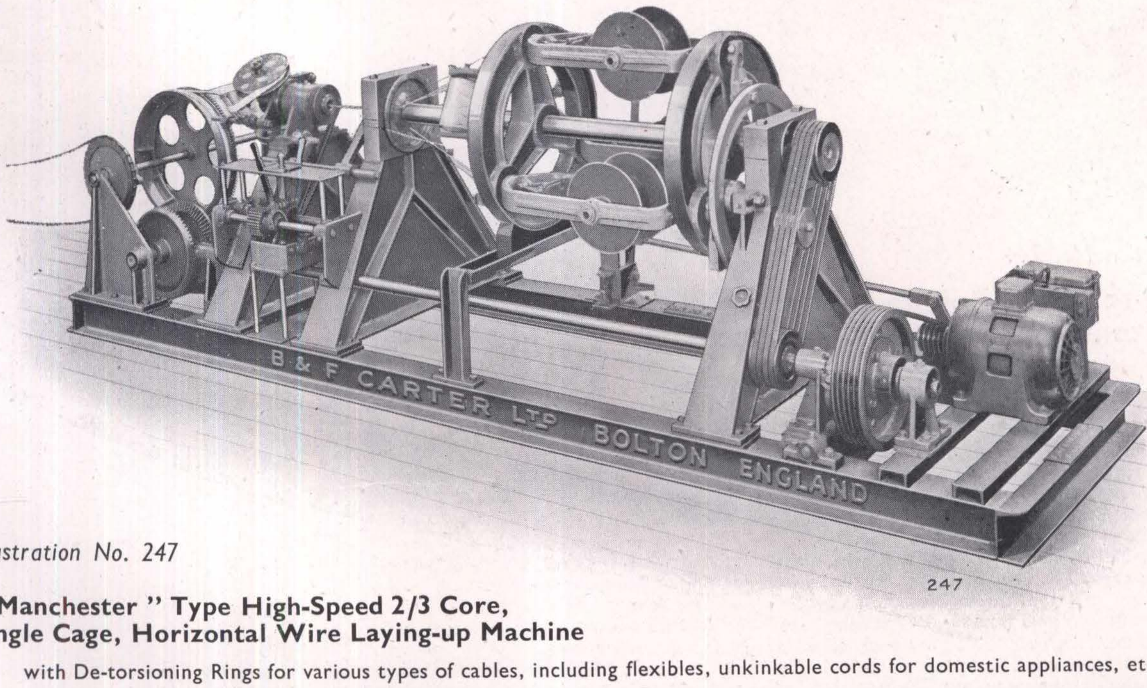


Illustration No. 247

" Manchester " Type High-Speed 2/3 Core, Single Cage, Horizontal Wire Laying-up Machine

with De-torsioning Rings for various types of cables, including flexibles, unkinkable cords for domestic appliances, etc.

1. Production—Twists or lays 250 per minute.
2. Size of bobbin—15½-in. diameter × 6½-in. traverse.
3. Each head is operated with gearing to give forward, reverse and neutral positions, operated by hand lever through safety gate.
4. Haul-off 20-in. diameter fitted with Fleeting knife.
5. Self lubricated grooved guide rollers fitted to allow the machine to operate on covered or fine wires.
6. Steel dies fitted with hardened steel replaceable bushes.
7. Die Box with thumb screw adjustment.
8. Cotton Lapping Head, arranged with Balanced Cartlite Metal Canister Flyer for holding cheeses 6-in. diameter × 4-in. traverse, alternatively, two 10-in. diameter × 2-in. wide Disc Tape Lapping Heads arranged for angular and axial adjustment, both these operated by variable speed gear.
9. Magazine for holding two reserve cheeses of yarn.
10. Range of lays—1-in. to 8½-in.
11. Driven by Electric Motor through multi " V " Belt Drive and Disc Type Friction Clutch.
12. Ball bearings and bronze impregnated sleeves fitted where necessary to reduce manual lubrication to a minimum.

for DETAILS SEE
Page 99

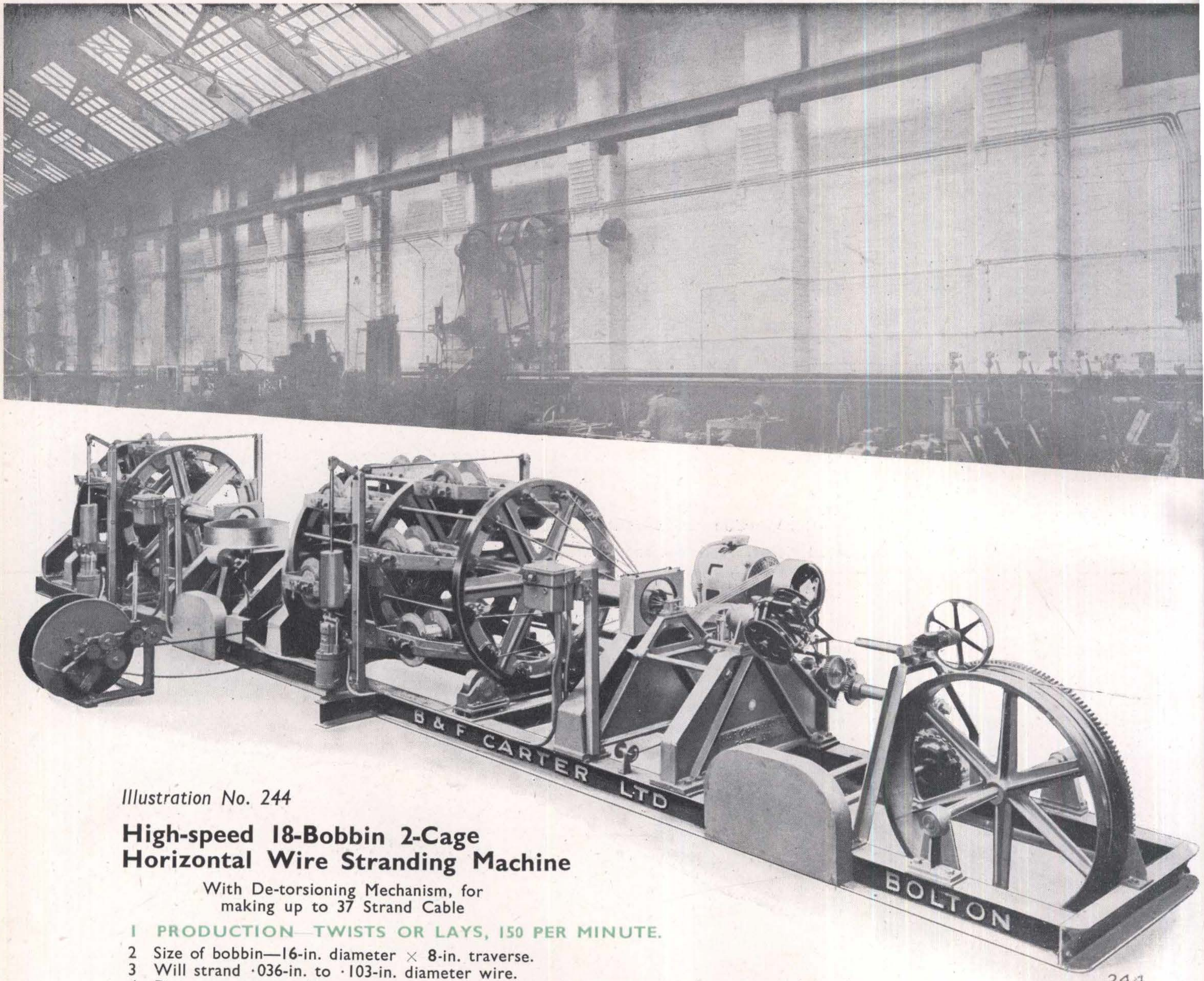


Illustration No. 244

High-speed 18-Bobbin 2-Cage Horizontal Wire Stranding Machine

With De-torsioning Mechanism, for
making up to 37 Strand Cable

1 PRODUCTION—TWISTS OR LAYS, 150 PER MINUTE.
2 Size of bobbin—16-in. diameter × 8-in. traverse.
3 Will strand ·036-in. to ·103-in. diameter wire.
4 First cage accommodates six bobbins, second cage accommodates 12 bobbins in two bays of six.
5 Gearing arranged on each cage to give forward, reverse running, and neutral positions, operated by hand lever through safety gate.
6 The Main Haul-off Wheel 3-ft. 0-in. diameter fitted with Fleeting Knife ; Haul-off Wheel on first cage, 2-ft. 0-in. diameter for use when running as independent unit.
7 Rollers mounted on each cradle to avoid friction on covered or fine wires.
8 Stranding Heads fitted with hardened steel replaceable bushes.
9 Die Box with thumb screw control adjustable for stranding point.
10 Drive by electric motor through Multi Vee Belts and centrifugal clutches ; a 16 h.p. motor drives both cages when the machine is running as a complete unit, when running as independent units it is only necessary to throw over the main coupling clutch which automatically changes the electric circuits on their respective starters, the units then being driven by separate motors.
11 Electrically controlled brakes are directly connected to the starters, and are automatic in operation.
12 Taping Head, to carry tapes up to 10-in. diameter × 2-in. wide, arranged with a tension device which is not affected by the speed of the head ; also a Cotton Whipping Head can be supplied, arranged with Balanced Cartlite Metal Canister Flyer, for holding cheeses of yarn 6-in. diameter × 4-in. traverse. Both these heads are driven by a Variable Speed Gear, through a Gear Box which has forward, reverse running, and neutral positions, operated by hand lever through safety gate.
13 Ball bearings and bronze oil impregnated sleeves fitted where necessary to reduce manual lubrication to a minimum.
14 For Measuring the stranded cable, a measuring unit, comprising Measuring Wheel, 1 yard circumference, Albion Revolution Counter with zero set-back, is fitted above the Haul-off Wheel.
15 A Pay Out Stand is built into the back of the machine for carrying a drum 2-ft. 0-in. diameter, to carry the core or centre wire.
16 On both Haul-off Wheels, slipping clutches and chain wheels are provided for driving the Take-up Stands.

or DETAILS SEE
Page 99

Machine to build up from 7 to 37 strand cables or ropes

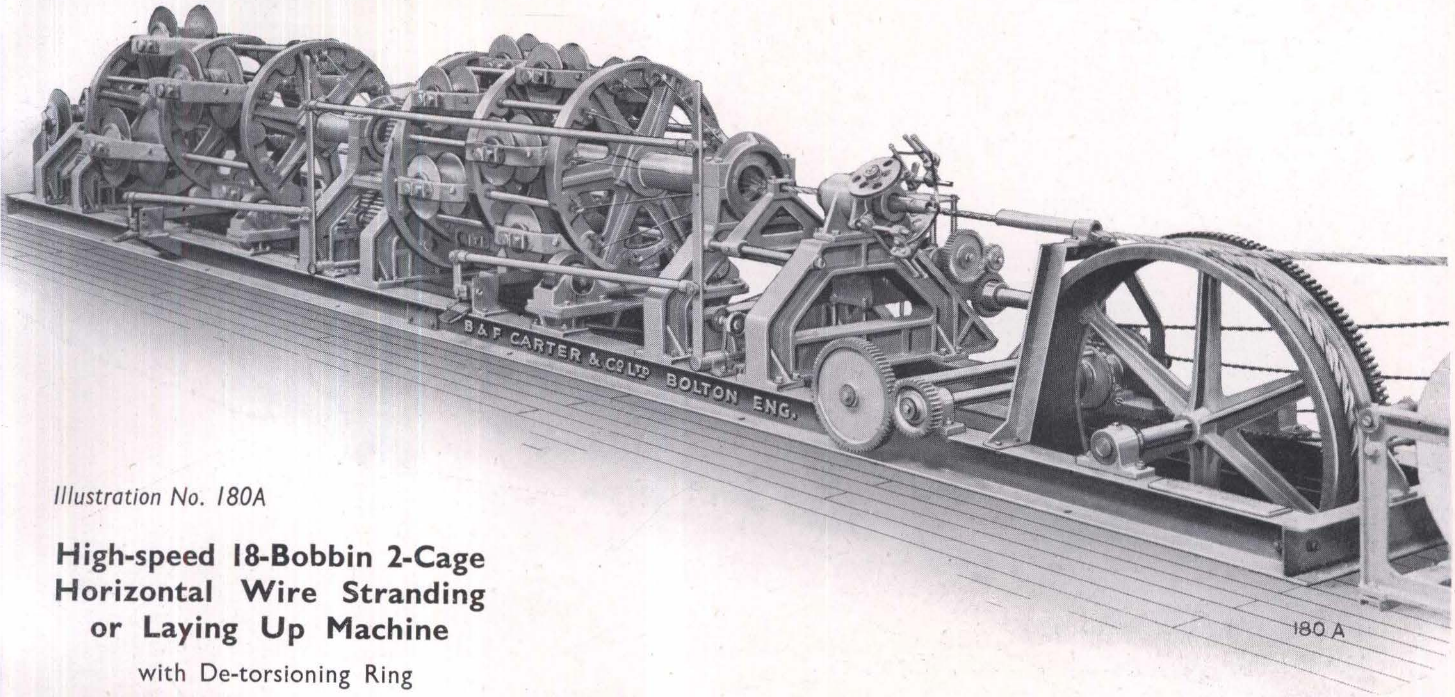


Illustration No. 180A

High-speed 18-Bobbin 2-Cage Horizontal Wire Stranding or Laying Up Machine

with De-torsioning Ring

1 PRODUCTION :—TWISTS OR LAYS, 180 PER MINUTE
2 Size of Bobbin first cage 16-in. diameter × 8-in. traverse, in two bays of 3.
3 Size of Bobbin second cage 9$\frac{1}{2}$-in. diameter × 4$\frac{1}{2}$-in. traverse, in two bays of 6.
4 Each cage arranged with gearing to give forward, reverse and neutral position, operated by hand lever through safety gate.
5 Haul-off 3-ft. diameter fitted with Fleeting Knife.
6 Grooved Guide Rollers fitted to allow the machine to operate on covered or fine wires.
7 Spacing plates fitted with hardened steel replaceable bushes.
8 Die box with thumb screw adjustment.
9 Cotton Lapping Head, arranged with Balanced Cartlite Metal Canister Flyer for holding cheeses 6-in. diameter × 4-in. traverse. Alternatively, two 7-in. diameter Disc Tape Lapping Heads arranged for angular and axial adjustment, both these operated by variable speed gear.
10 Magazine for holding two reserve cheeses of yarn.
11 Range of lays, $\frac{5}{8}$-in. to 16-in.
12 Drive by electric motor through Multi Vee Belts and Centrifugal Friction Clutch.
13 Brake comes into operation when clutch is disengaged to avoid over-running.
14 Ball bearings and bronze impregnated sleeves fitted where necessary to reduce manual lubrication to a minimum.

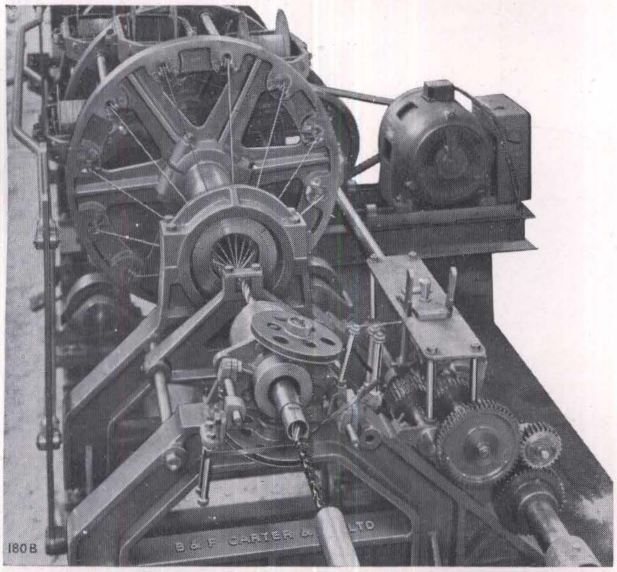


Illustration No. 180B

Showing Tape Lapping Head operated through variable speed gear

with forward and reverse levers

High-speed Fully Electrically-operated and Controlled Machine.

Note Production.

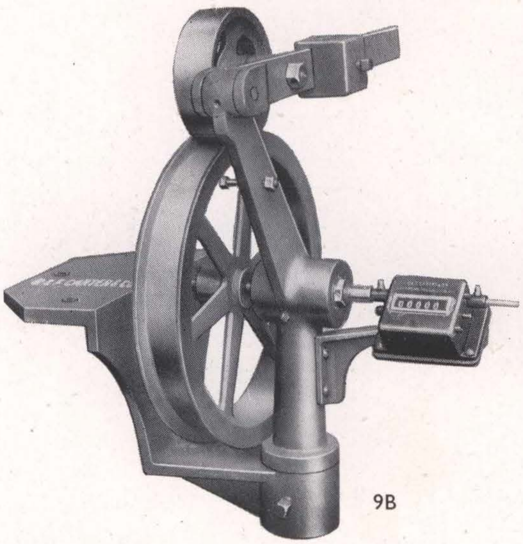
Photograph of actual product of 15-strand Telephone Cable shown on Page 110, Item D.

Measuring Machines

For Every Industry

for DETAILS SEE

Pages 95 and 96



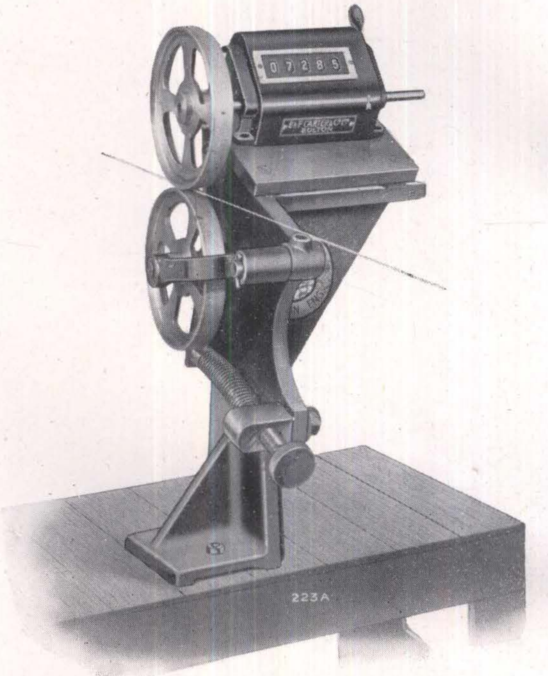
9B

Illustration No. 9B

Measuring Machine

For Flexible Wires, Cables, Cords, Tapes, etc.

Designed for fixing to a bench, table or pillar stand, supplied either right or left hand.
Aluminium Measuring Wheel, 1 yard circumference, running on ball bearings, fitted with tension wheel and Albion 5-figure Revolution Counter with zero set-back, to read in either feet, yards or metres.
The material to be measured is kept in the centre of the Measuring Wheel by suitable guides.

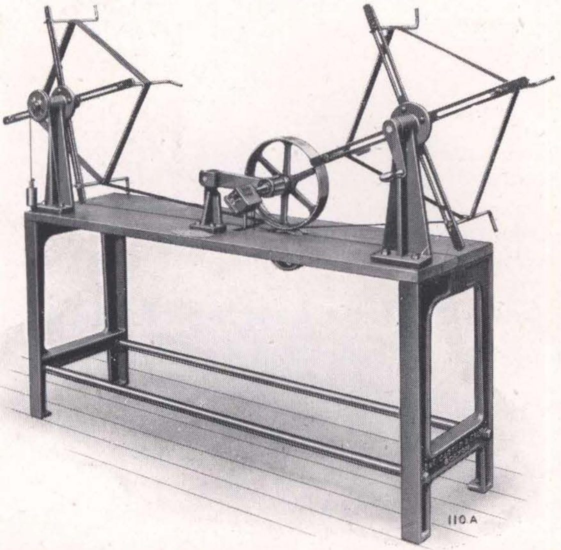


223A

Illustration No. 223A

Fine Wire or Tape Measuring Unit

With Brass Wheel, 1-ft. circumference.
Measuring Wheel fitted with Automatic Brake Attachment, to avoid over-recording.
Lower Tension Wheel fixed on pivoted bracket operated by finger adjustment to suit various diameters of wire.



110A

Illustration No. 110A

Bench Type Measuring and Hank Winding Machine

With Aluminium Measuring Wheel, 1 yard circumference, and fitted with Albion 5-figure Revolution Counter with zero set-back, to read in either feet, yards or metres.
Table arranged with supporting roller, two hank holders, 8½-in. wide, adjustable from 3½-in. to 12-in. from centre, one a Take-up with handle for hand winding, the other a Pay-out and fitted with Friction Control to prevent over-running.

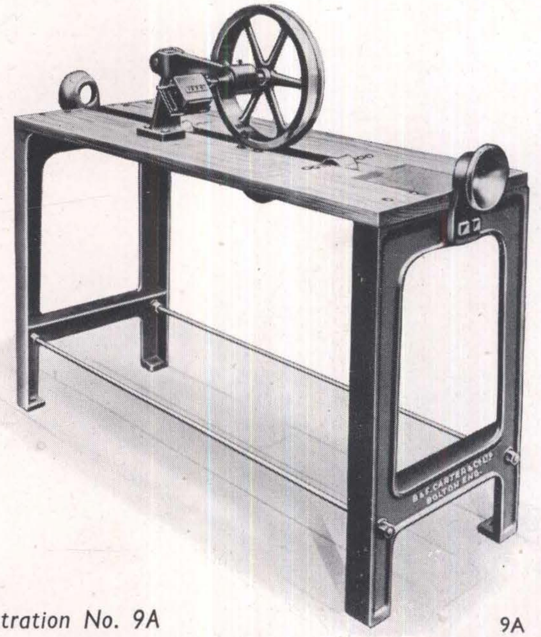


Illustration No. 9A

9A

Bench Type Measuring Machine

For Flexible wires, Cables, Cords, Tapes, etc.

With Aluminium Measuring Wheel, 1 yard circumference, and fitted with Albion 5-figure Revolution Counter with zero set-back, to read in either feet, yards or metres.
Table arranged with supporting roller, bell-mouthed guides and steel cutting-off plate.

or DETAILS SEE
Pages 95 and 96

Measuring Machines

To Measure is to know

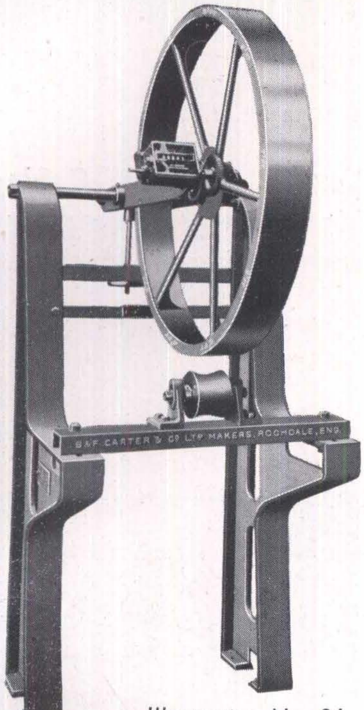

B & F CARTER & Cº LTD MAKERS, ROCHDALE, ENG.

Illustration No. 8A

Floor Type Measuring Machine

For Heavy Cables, etc.

With Aluminium Measuring Wheel, 10-ft. circumference and graduated in feet on the rim. Can be lowered by means of a hand wheel to bring the Measuring Wheel in contact with the Cable.
Machine fitted with 5-figure Albion Revolution Counter with zero set-back to read in either feet, yards or metres. To work in conjunction with your Stranding, Lapping Machines, Lead Press, etc.

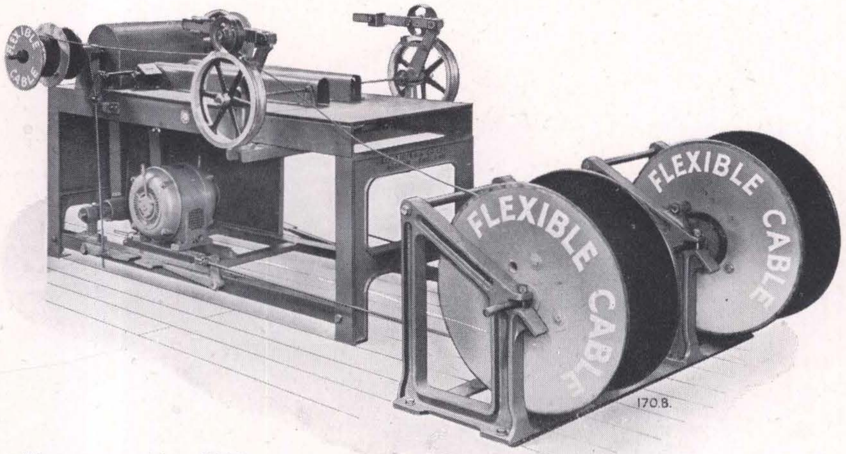
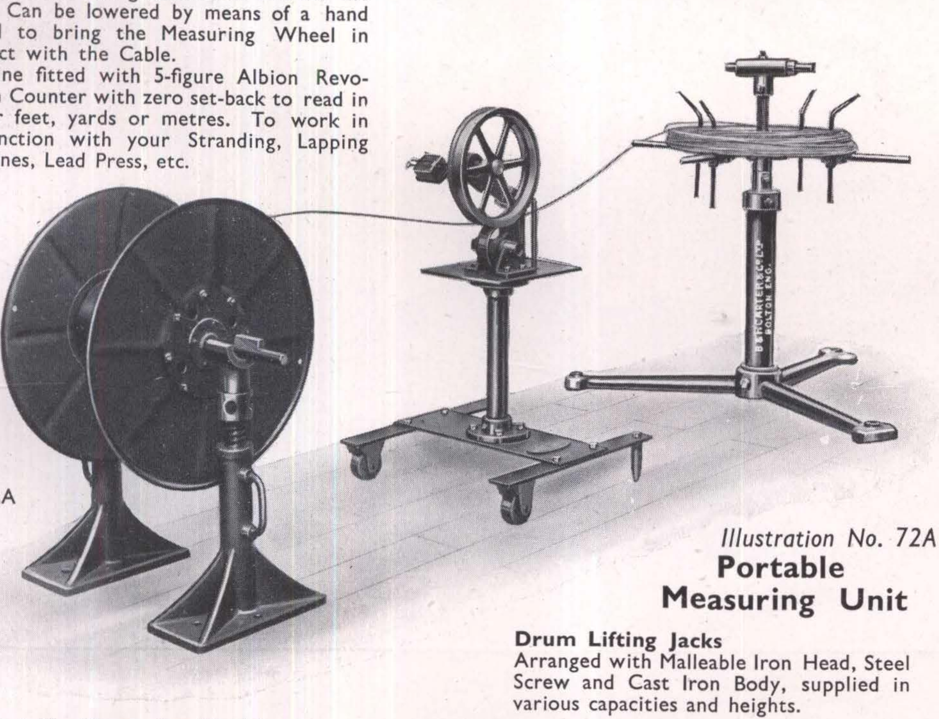


Illustration No. 170B

Bench Type Double Headed Measuring, Coiling and Reeling Motion for Flexible Wires and Cables

Arranged with two stands for pay-out reels, 24-in. diameter × 12-in. between flanges. Two Aluminium Measuring Wheels, 1 yard circumference, mounted on steel spindles, running on ball bearings and tension wheel, each fitted with Albion 5-figure Revolution Counter, zero set-back driven by direct drive from the measuring wheels, and fitted within easy view of the operator.
Machine suitable for making coils say up to 18-in. diameter, and reels up to 12-in. diameter, operated by foot pedal as independent units.
Driven by electric motor.
Speed of Coiling Spindles :—150/180 revolutions per minute.
The Coiling Spindles can be fitted with Rubber Grips for quick loading of the reels which can be fixed or rejected without any locking nuts or clamps.
See Double Headed Pillar Type Coiling or Reeling Motion on page 48.


B & F CARTER & Cº LTD BOLTON ENG.

72A

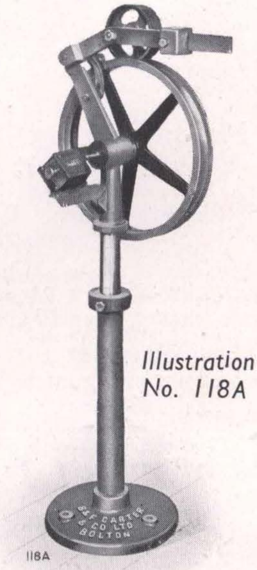

B & F CARTER & CO LTD BOLTON

Illustration No. 118A

118A

Illustration No. 72A

Portable Measuring Unit

Drum Lifting Jacks
Arranged with Malleable Iron Head, Steel Screw and Cast Iron Body, supplied in various capacities and heights.

Portable Measuring Machine
Mounted on Floor Pedestal with balanced telescopical vertical adjustment. With Aluminium Measuring Wheel, 1 yard circumference and fitted with Albion 5-figure Revolution Counter with zero set-back.

Adjustable Wire Swifts
Various designs of these are illustrated and described on page 79 of this catalogue.

Pillar Type Measuring Unit

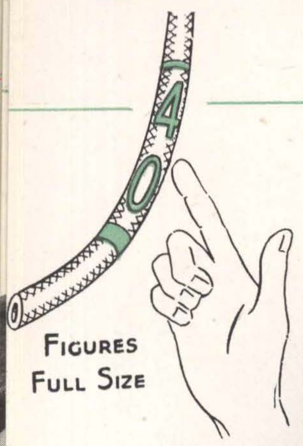
Suitable for mounting in front of Rubber Extruding Machines, etc. Can be arranged with either one or two yard circumference aluminium Measuring Wheel.
Fitted with Albion 5-figure Revolution Counter with zero set-back, mounted on floor pedestal which is arranged with Balanced Telescopal Vertical Adjustment.

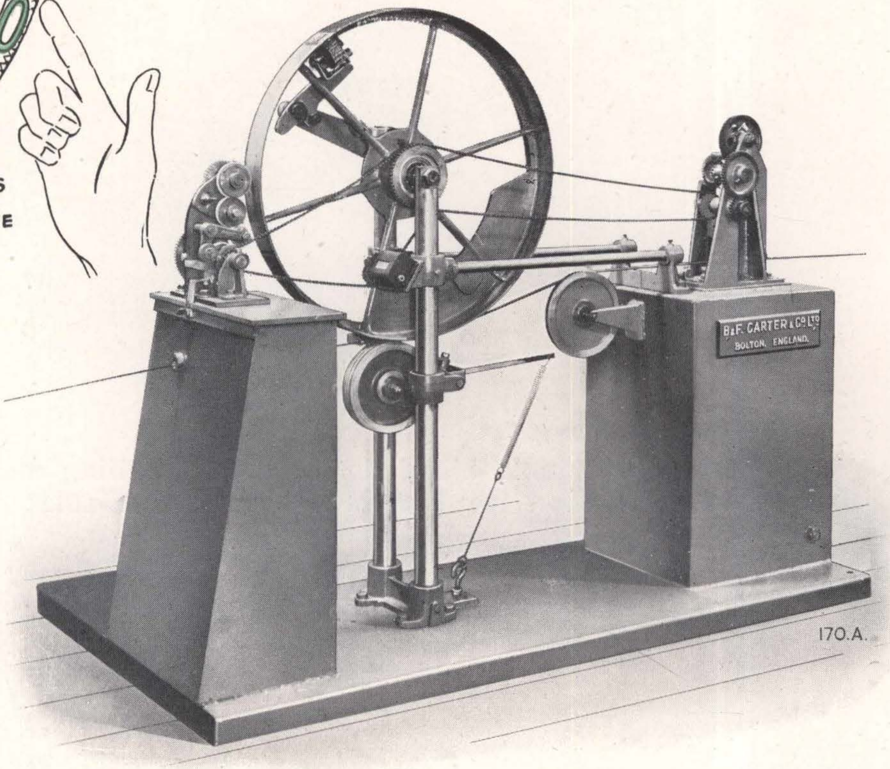
Measuring Machines

Length Marked Cable Eliminates Waste

for DETAILS SEE

Page 96





170.A.

Illustration No. 170A

Length Marked Cable Measuring, Stamping and Cutting-off Machine

Suitable for Braided, Flexible, V.I.R. Cables, etc.

1. Marks Cable every 5 yards, as follows :—5, 10, 15, 20 yards, etc., up to 100 yards.
2. Predetermined cutting-off motion and 5-figure Albion Revolution Counter, with zero set-back for recording output.
3. Automatic re-setting of the guillotine by means of foot treadle.
4. Driven by the cable passing through to customer's own coiling machine.

Illustration No. 179B

Measuring and Cutting-off Unit

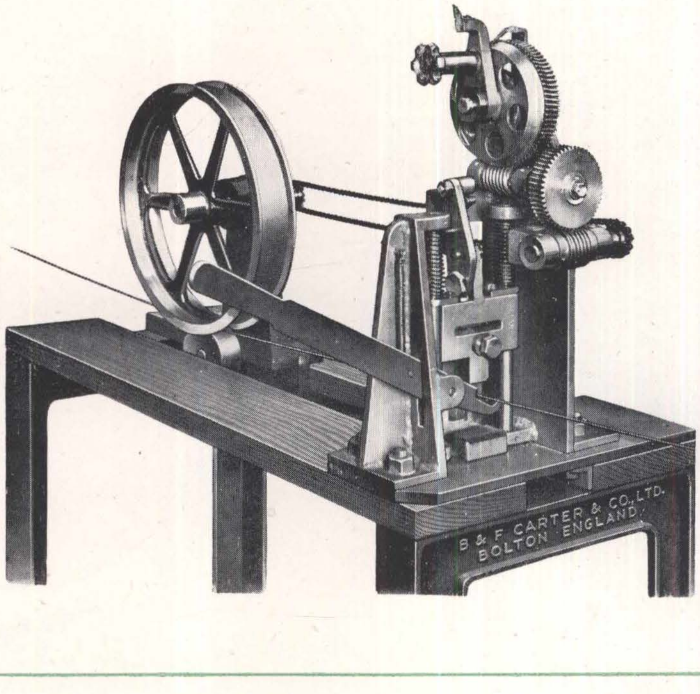
For Electric Cable, Brass, Aluminium or Copper Wire

For cutting-off at a predetermined length at one setting, from 10 up to 2,000 yards.

The guillotine returns to the cutting position by means of hand lever.

The machine is driven solely by the cable or wire being drawn through the measuring unit, and deals with cables up to $\frac{5}{16}$-in. diameter.

The whole is a speedy and efficient operation.



179 B

or DETAILS SEE
Page 95

Illustration No. 55A

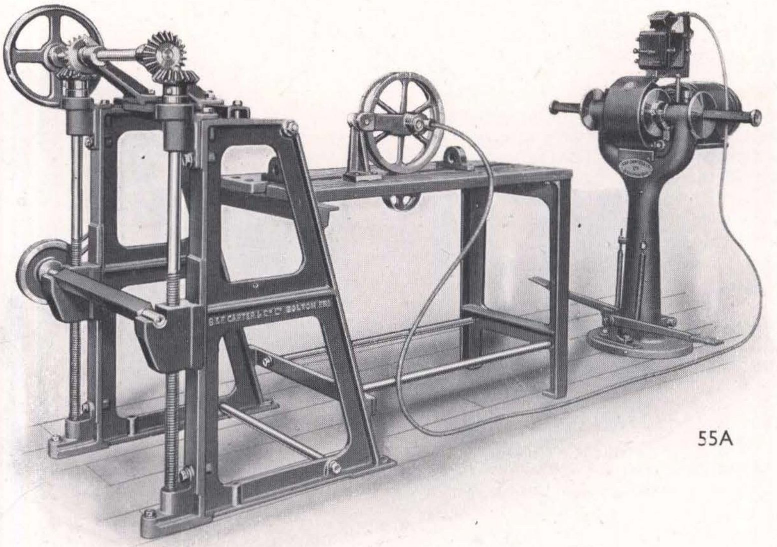
Bench Type Measuring Machine and Pay-out Stand

With Double-head Pillar Type Coiling or Reeling Motion for Flexible Wires and Cables

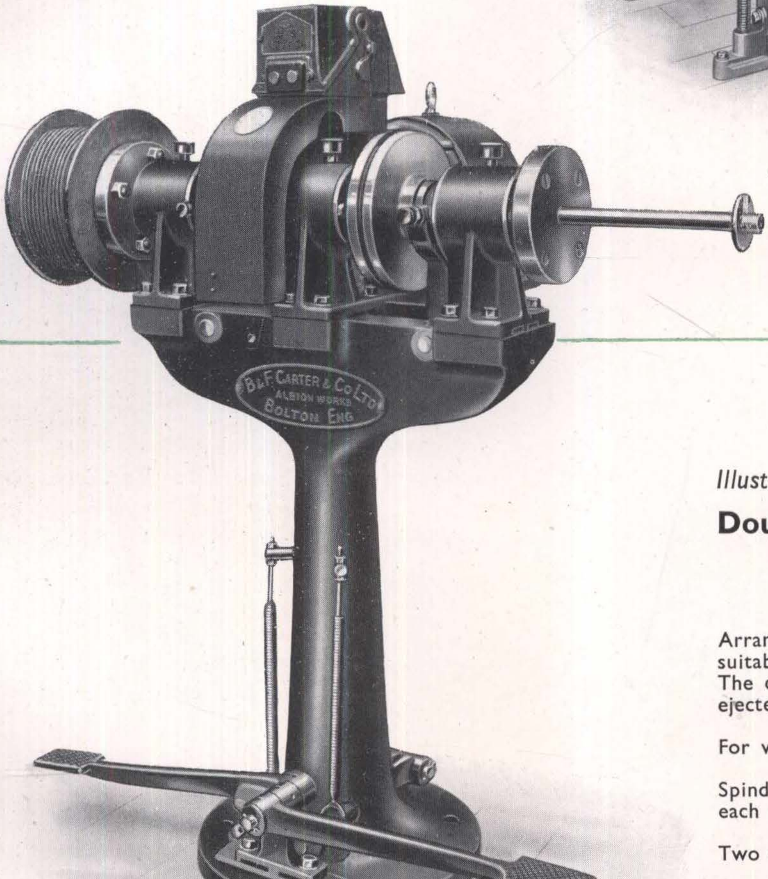
With Pay-out Stands for drums 3-ft. 0-in. diameter × 1-ft. 6-in. traverse, and raising and lowering device controlled by hand-wheel.

The Table is fitted with guides, supporting roller and aluminium measuring wheel 1 yard circumference mounted on steel spindle running on ball-bearings.

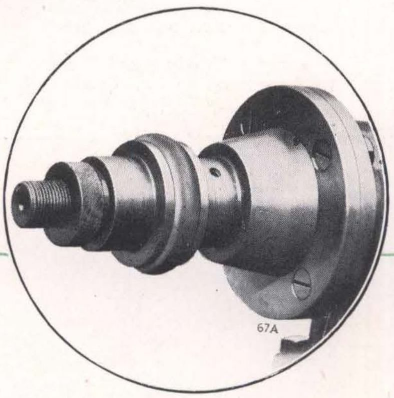
From the end of this spindle a flexible drive connects to an Albion 5-figure Revolution Counter mounted on the Coiling and Reeling Motion described below.



55A



63A



67A

Illustration No. 63A

Double-headed Pillar Type Coiling or Reeling Motion

For Flexible Wires and Cables

Arranged with quick loading device by means of Rubber Grip, suitable for drums up to 4-in. bore, as illustration No. 67A. The drums require one adjustment only and can be fixed or ejected from the spindle with ease, speed and efficiency. Other sizes of spindles fitted on request.

For winding on to cardboard reels or drums 12-in. diameter up to say $\frac{5}{16}$-in. diameter cable.

Spindle running on ball races, mounted on to a pedestal stand, each spindle driven through clutch drive and operated independently from two foot pedals.

Two operators can work this machine. While one is winding, the other can be removing and replacing the reels.

Output from both spindles approximately 26,000 yards per day of 8 hours. *See* Bench Type Double-headed Measuring, Coiling or Reeling Motion on page 46.

Counter can be supplied to read in feet, yards or metres

Marking Machines

For Electric Cables, Tapes, etc.

for DETAILS SEE
Page 97

Production :— Marking Speed approximately 100-ft. per minute.

For printing on both sides of Tape or Cables, the printing roller approximately 4-in. diameter upon the circumference of which is engraved the lettering or figuring which is required, inked by continuous feed rollers fed from the ink bath by oscillating roller, which evenly distributes the ink on to the feed rollers

Arranged with 8-in. diameter grooved guide wheel and 19½-in. diameter Haul-off Capstan

The Take-up and Pay-out Stands are suitable for Drums 24-in. diameter × 12-in. traverse with easy raising and lowering device by hand-wheel, variable traverse fitted on Take-up Stand, Electric Motor Drive through Multi Vee-belts

Marking Head shown on Illustration No. 142B

Illustration No. 143A

Single and " Duplex " Marking Machines

For the Continuous Printing of Rubber-covered or Wrapped Electric Cables, Tapes, etc.

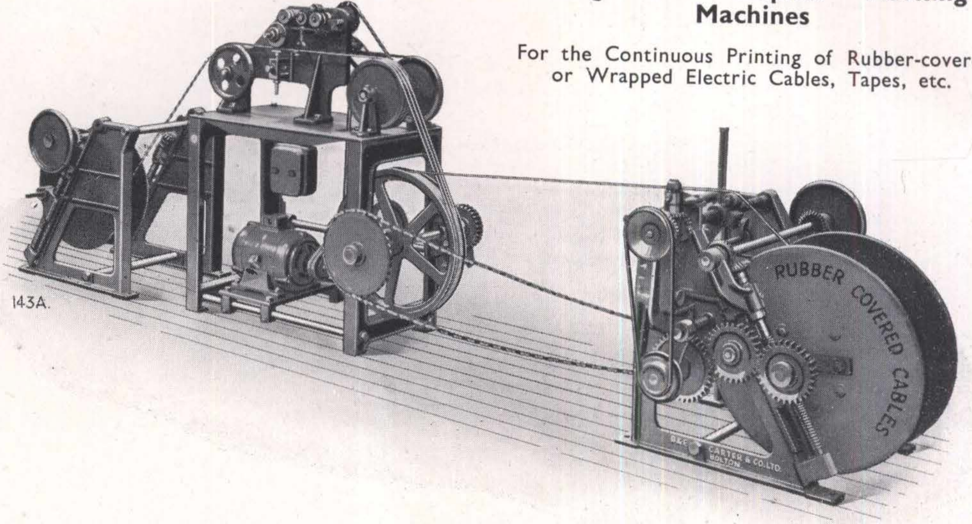


Illustration No. 84A

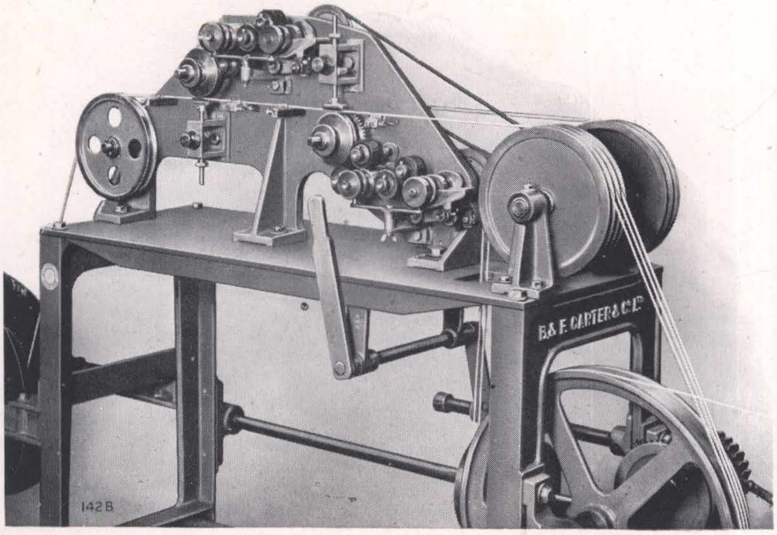
Unit for Impressing Cab Tyre Sheathed Cable

with Trade Mark, Amperes, etc.

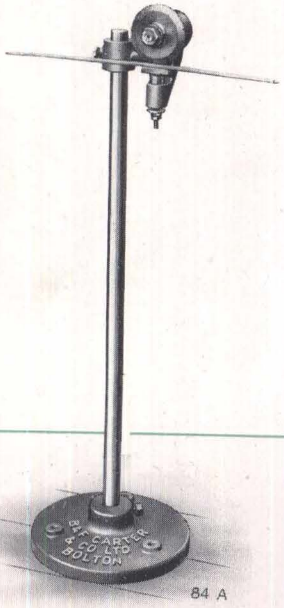
Comprising one marking wheel made in carbon steel 4-in. diameter over the letters, hardened and tempered, revolving on ball-bearings

Mounted on to a Floor Stand with adjustment for varying the height

Suitable for fitting in front of Rubber Extruding Machines, etc.



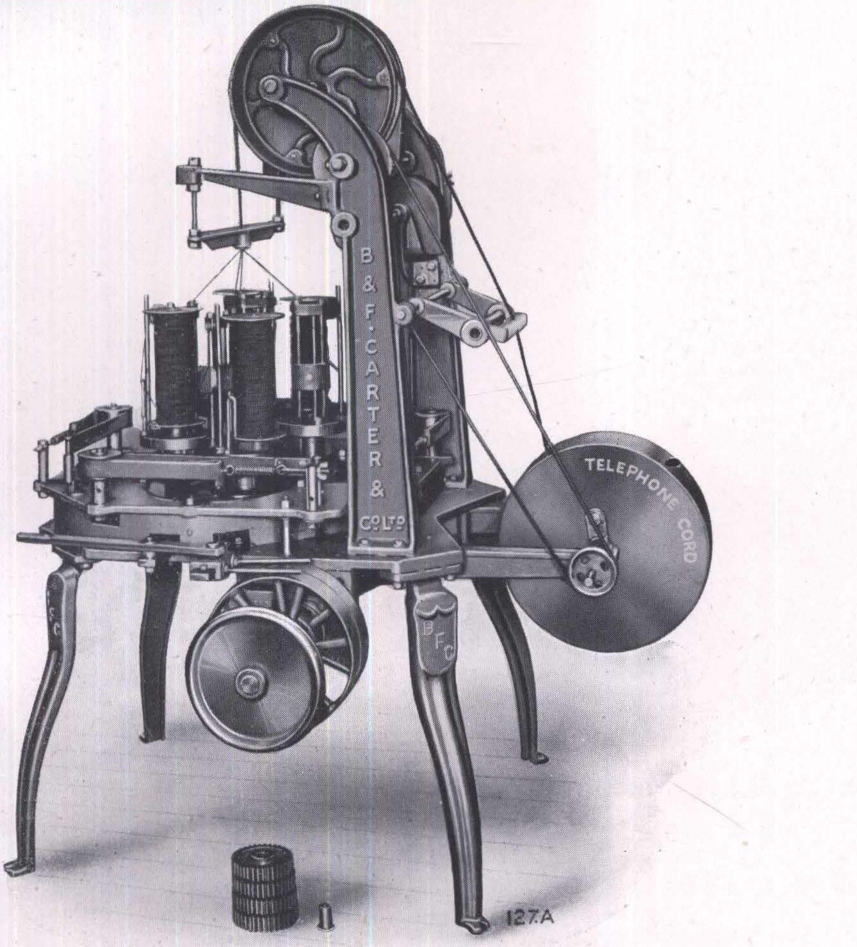
Close-up of Duplex Machine Marking Head



Branded Cables are your safeguard

Cord Plaiting

and Metal Wrapping



127A

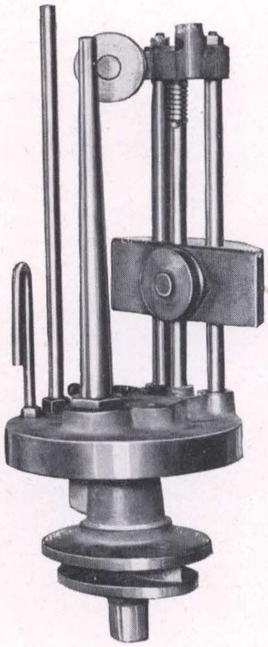


Illustration No. 233B

Close-up of Telephone Cord Machine Carrier

Illustration No. 127A

High-speed Multiple Telephone Cord Plaiting Machine

Production 1¼-in. lay = 34-in. per minute approximately
1-in. lay = 28-in. ,, ,, ,,
⅞-in. lay = 24-in. ,, ,, ,,

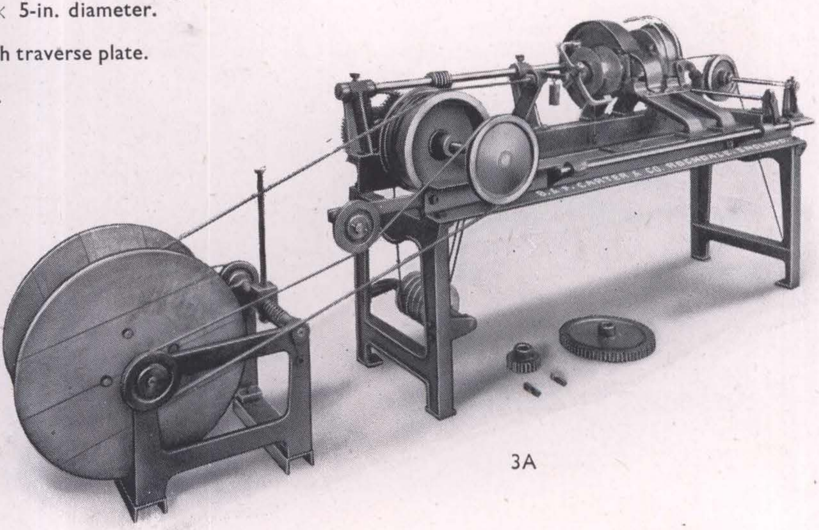
For laying up of telephone cords, so that twist is eliminated from each individual strand. With four Carriers (Illustration No. 233B) of special construction to avoid rubbing or chafing of the plaited material, suitable for bobbins 9-in. traverse × 5-in. diameter.
14-in. diameter Haul-off Capstan and adjustable die-holder.
Take-up Drum, 16-in. diameter × 12-in. traverse provided with traverse plate.
Fast and Loose Pulley Drive.
Machine can be driven by Electric Motor and Flat Belt Drive.

Illustration No. 3A

Half Round Aluminium or Brass Wire Wrapping Machine

For Lapping Electric Cables, etc.

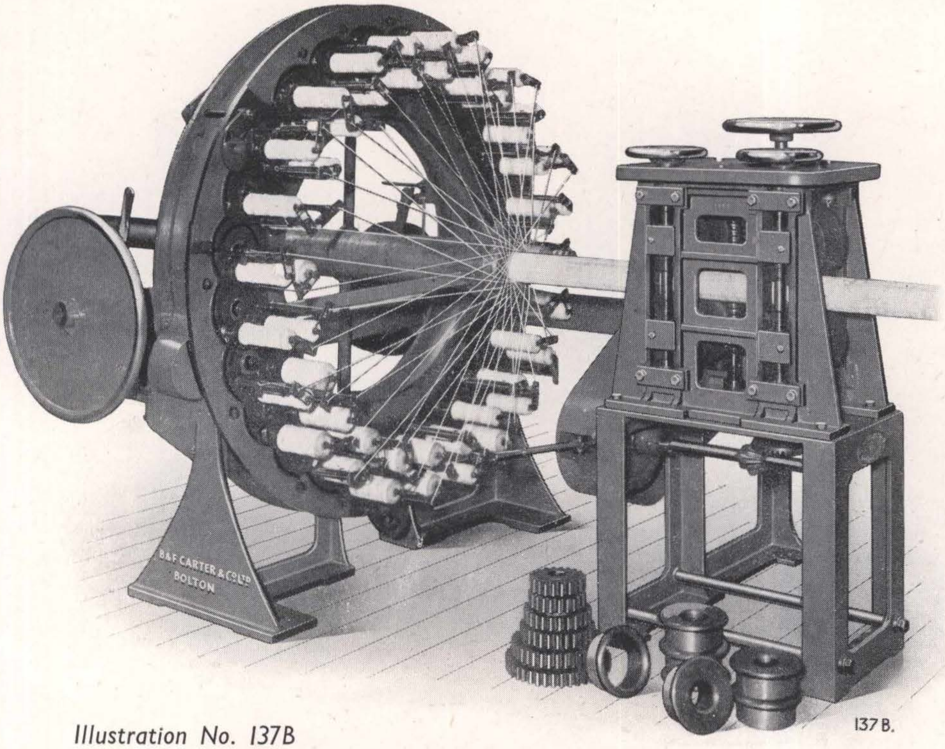
Production approximately 1,000 turns per minute. The core to be wrapped passes from the Pay-out Stand through the machine in a horizontal position, over the guide roller and through a hollow spindle, whereon is mounted the 7-in. diameter × 3½-in. traverse Bobbin for accommodating the half round metal strip.
Over-running of the Bobbin is controlled by a friction brake.
The Metal Strip from the Bobbin is threaded through a brass flyer which revolves at 1,000 r.p.m., the core is then drawn through the machine by the 12-in. diameter Haul-off Capstan, and grooved Fleeting Wheel.
The Machine can be driven by Electric Motor or Flat Belt Drive. Take-up Stands to suit your requirements.

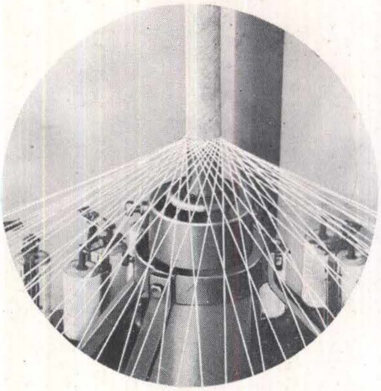


3A

Horizontal Braiding Machines

for DETAILS SEE
Page 89





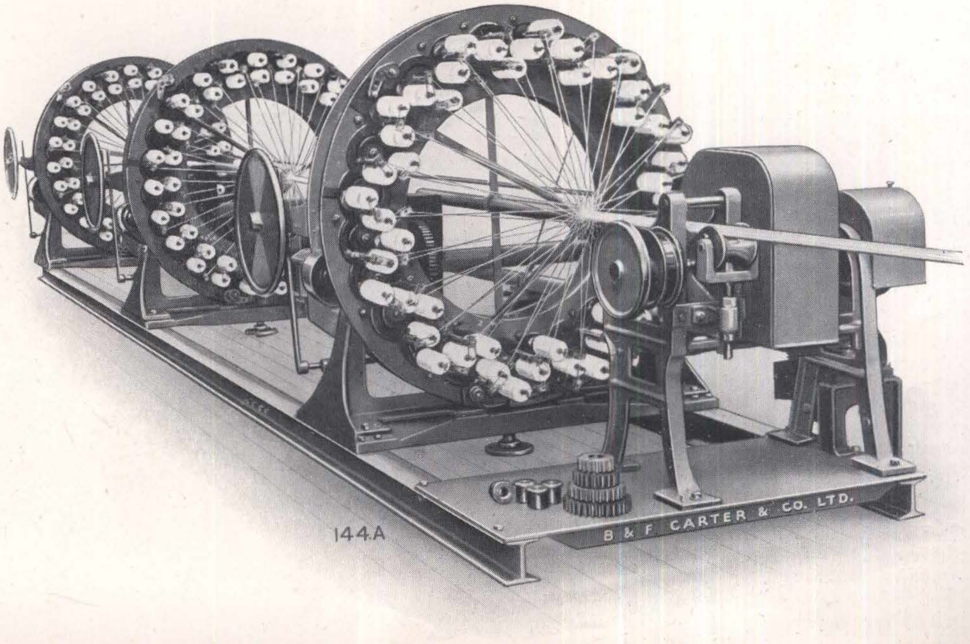
Close-up taken at Braiding Point

Illustration No. 137B

High-speed 48-carrier Braiding Machine

1 Production approximately 306 stitches per minute.
2 Size of Cheeses of yarn 6-in. traverse × 3-in. diameter, or double-flanged bobbins $4\frac{1}{2}$-in. traverse.
3 Haul-off Twin Calender Rubber Roller Sure-Grip Draw-off Motion, self-centering for 4-in. maximum diameter hose.
4 Also Machines can be supplied with the following number of Carriers : 24, 32, 36, 48, 60 and 64.
5 Can also be arranged with Continuous Twin Grip Draw-off Motion, as shown on the 36-Carrier Machine, illustration No. 147B.
6 Braiding Heads arranged in tandem, similar to the 3-head 48-Carrier Machine, illustration No. 144A.
7 Automatic Electric Stop Motion when yarn breaks.
8 Drive through Electric Motor and centrifugal clutch, or belt drive if desired.

EFFICIENT CARRIERS PAY



Reinforce your Hose with Braiding

Pressure, Suction, Hydraulic, Conveyor Hose, etc.

Illustration No. 147B

High-speed Horizontal 36-carrier Yarn Braiding Machine

Arranged with Continuous Twin Grip Draw-off Motion

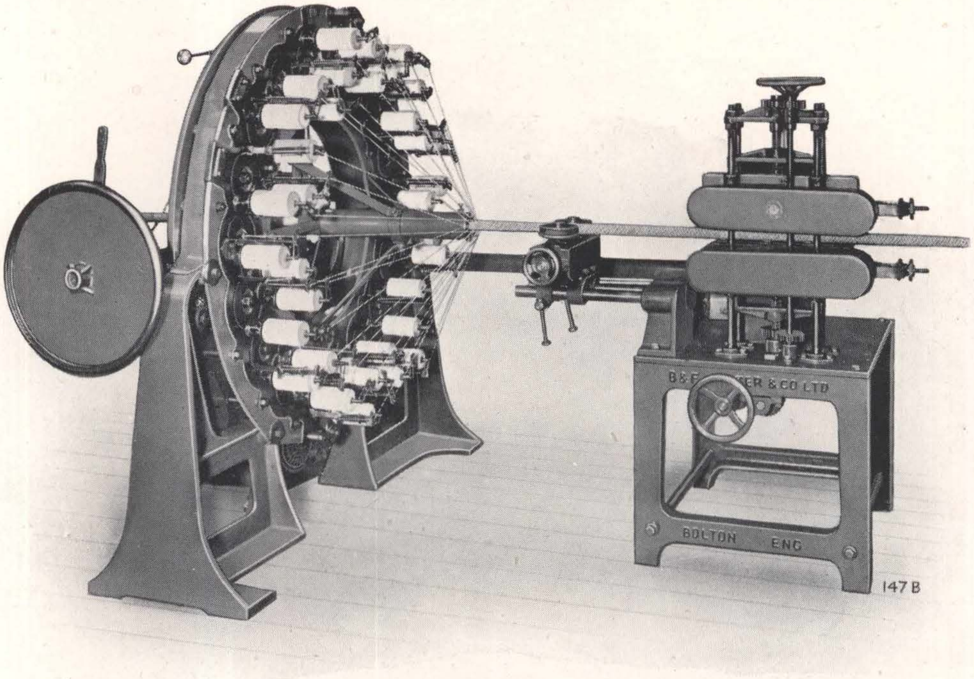


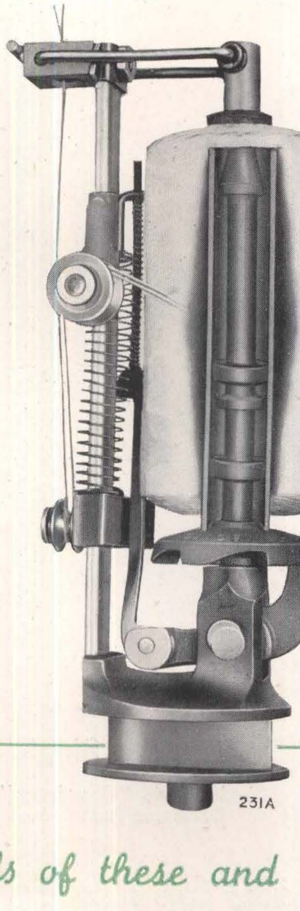
Illustration No. 231A

No. 4 Horizontal "Speedway" Carrier

This Carrier has been designed for the manufacture of High Pressure Hose or any braiding which requires heavy tension and which demands a Carrier of sturdy and well supported structure. The ingenious bracing link at the top of the Carrier ensures that there is no slackness on the braid due to the back vibrating, also a roller is provided on the weight to allow free running of the yarn. This type of Carrier is recommended and generally used where a hard braid is required on rigid cores or mandrels and is fitted as standard on Horizontal Braiding Machines.

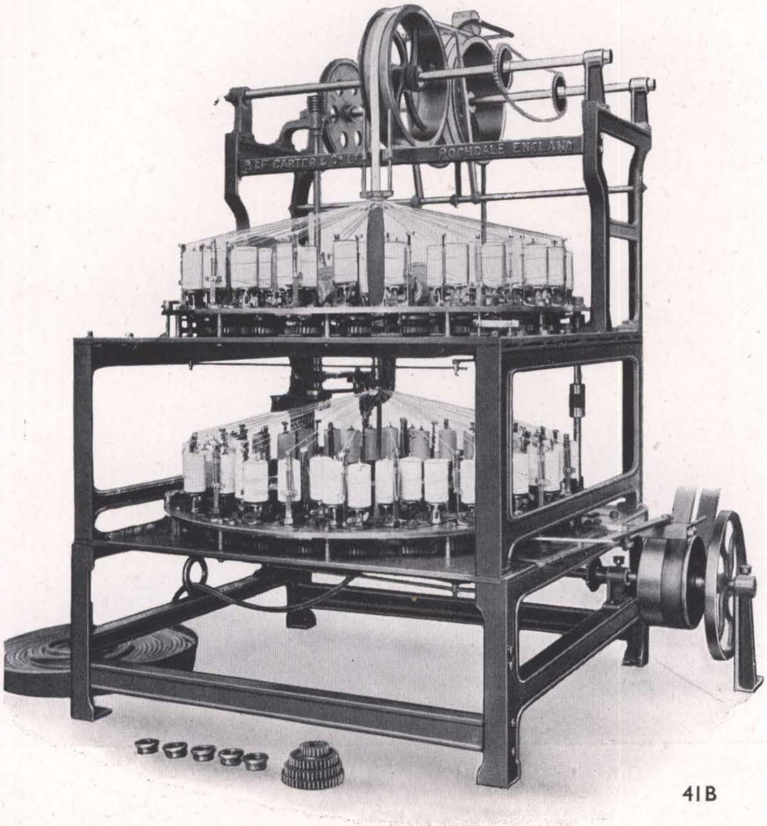
For use on this Carrier we recommend our ROL-HOLDER, which is easy on the hand and yarn, with rubber rings suitable for parallel cardboard tubes, and Bobbins from $\frac{5}{8}$-in. bore.

Patent Nos.
British, 543502 ; U.S.A., 1843752 ; German, 1184406



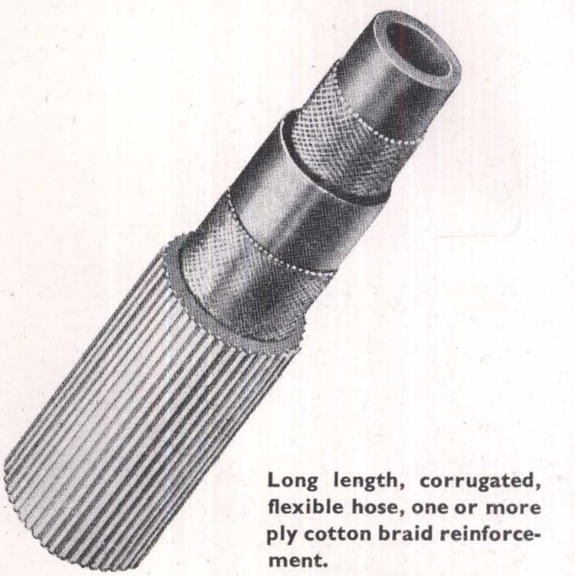
Further Details of these and other Carriers, see Leaflet No. 10

for DETAILS SEE
Page 89



41B

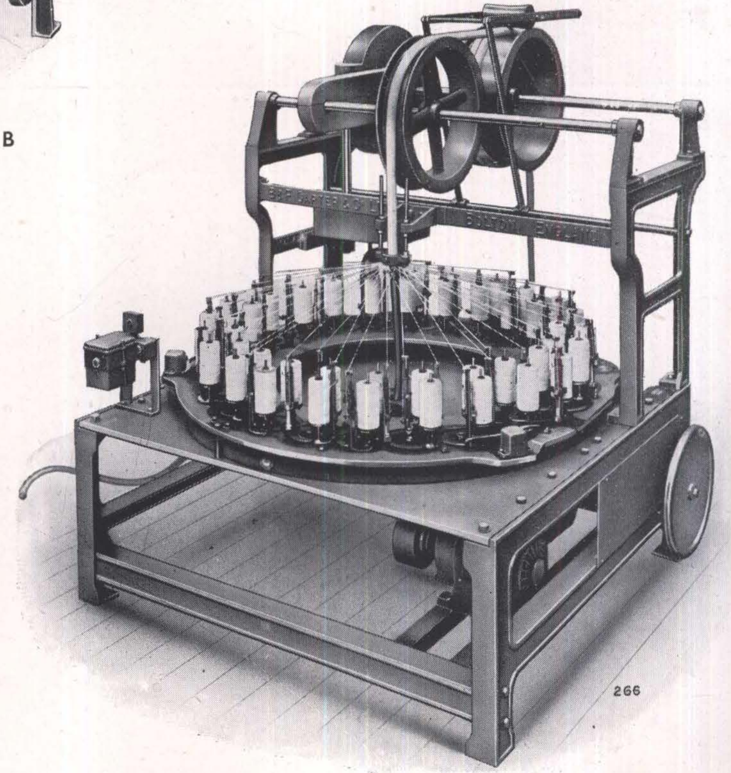
Illustration No. 41B



Long length, corrugated, flexible hose, one or more ply cotton braid reinforcement.

High-speed 48-carrier Double Tier Braiding Machine

1. Production approximately 350 stitches per minute.
2. Size of Cheeses of yarn or double-flanged Bobbins, 6-in. traverse × 3-in. diameter.
3. Haul-off—Capstan Type.
4. Double-tier Machines can be supplied with the following number of Carriers : 24, 36 and 48.
5. Single-tier Machines can be supplied with the following number of Carriers : 24, 36, 48, 60, 64 and 96.
6. Ply Hose—Stands are fitted to carry rubber strip for inserting between the braided covers.
7. Automatic Stop Motion when yarn breaks.
8. Drive through Electric Motor and centrifugal clutch, or belt drive if desired.
9. These Machines fitted with our Patent " Speedway " Carriers No. 4, described and illustrated on page 54.



266

Illustration No. 266

Single-tier Machine

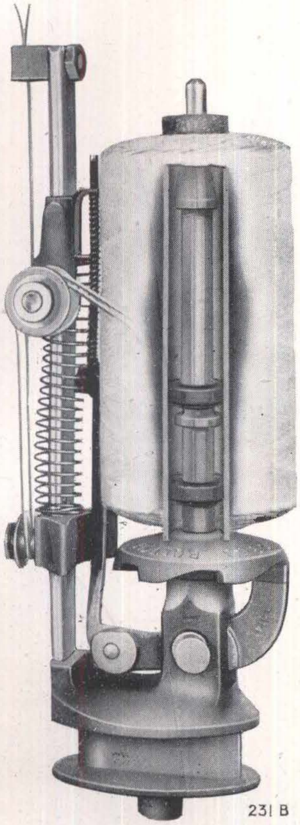
With 48 " Speedway " Carriers. With Electric Motor Drive and Electric Stop Motion. Small overall floor space.

Make up your hose on modern machines for quality and production

Braiding Machine

Long Length Rubber Hose, Vacuum Cleaner Tubes, etc.

EFFICIENT CARRIERS PAY



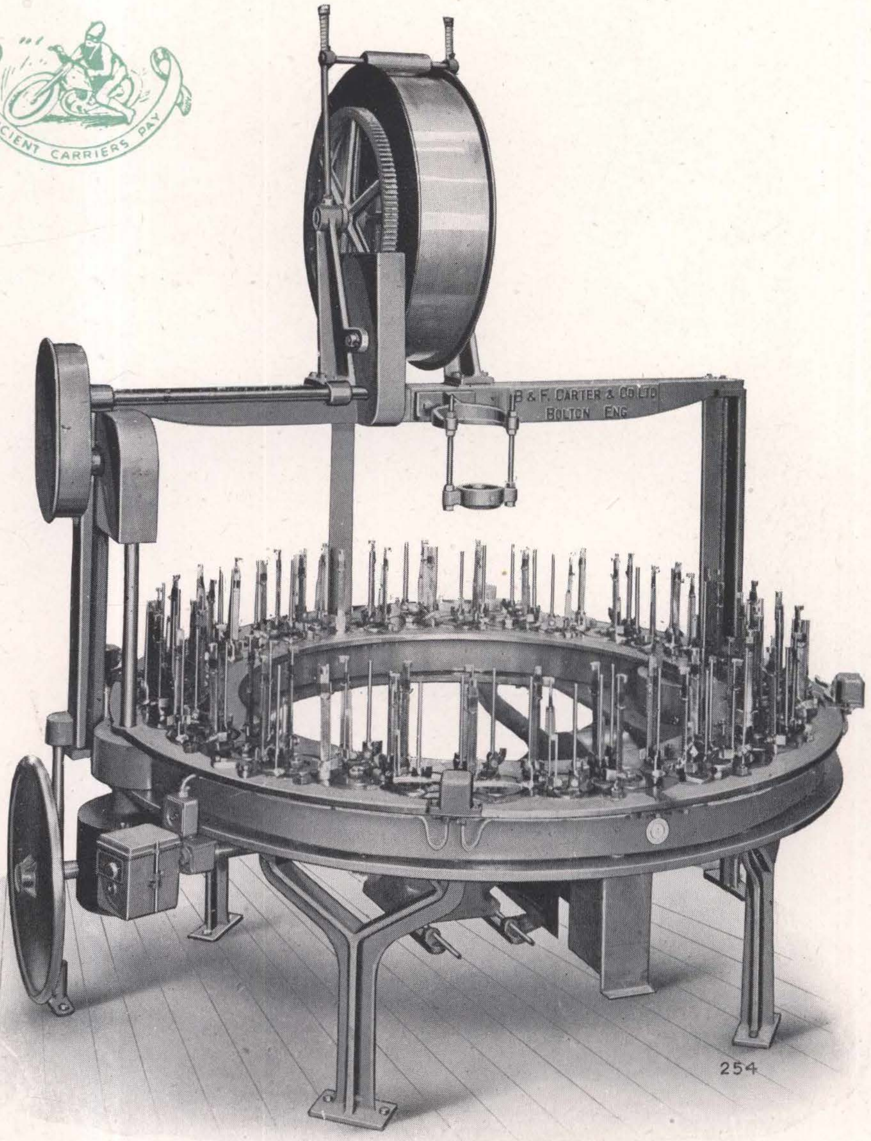
231 B

Illustration No. 231B

No. 4 " Speedway " Carrier

Patent Nos. : British, 543502 ;
U.S.A., 1843752 ; German, 1184406

This Carrier is suitable for yarns either single or multiple ends parallel. Tension arranged to suit requirements. Rollers fitted to reduce yarn friction to a minimum. Combined with easy yarn threading. For use on this Carrier we recommend our "ROL-HOLDER," which is easy on the hand and yarn, with rubber rings suitable for parallel cardboard tubes, and bobbins from $\frac{5}{8}$-in. bore.



254

Illustration No. 254

64-Carrier Vertical Braiding Machine

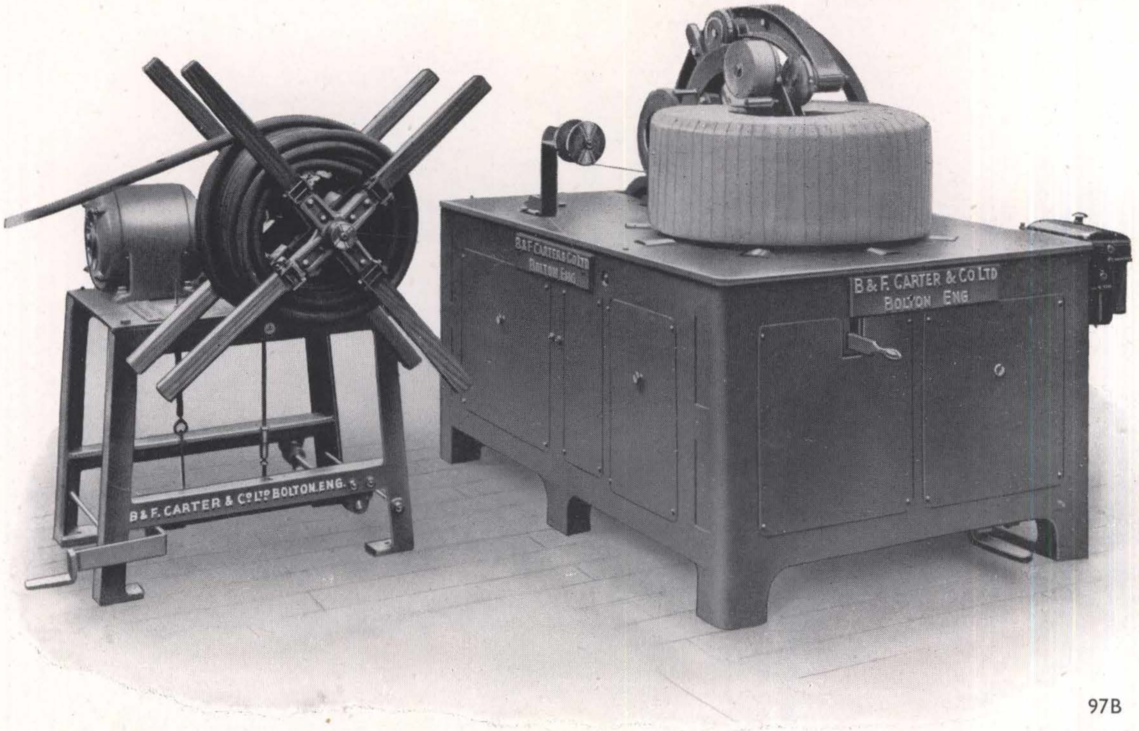
Generally used for covering Vacuum Cleaner tubes up to 3-in. outside diameter. Similar machines manufactured with 60 and 96 carriers. For further details see Page 53, but this machine is arranged with Automatic Electric Knock-off Motion. Small overall floor space.

Further Details and other Carriers, see Leaflet No. 10

Wrapping Machines

For wrapping coils of rubber hose, wire, cables, automobile tyres, etc.

for DETAILS SEE
Page 90 and 95



97B

Illustration No. 97B

Automatic Coil Wrapping Machine

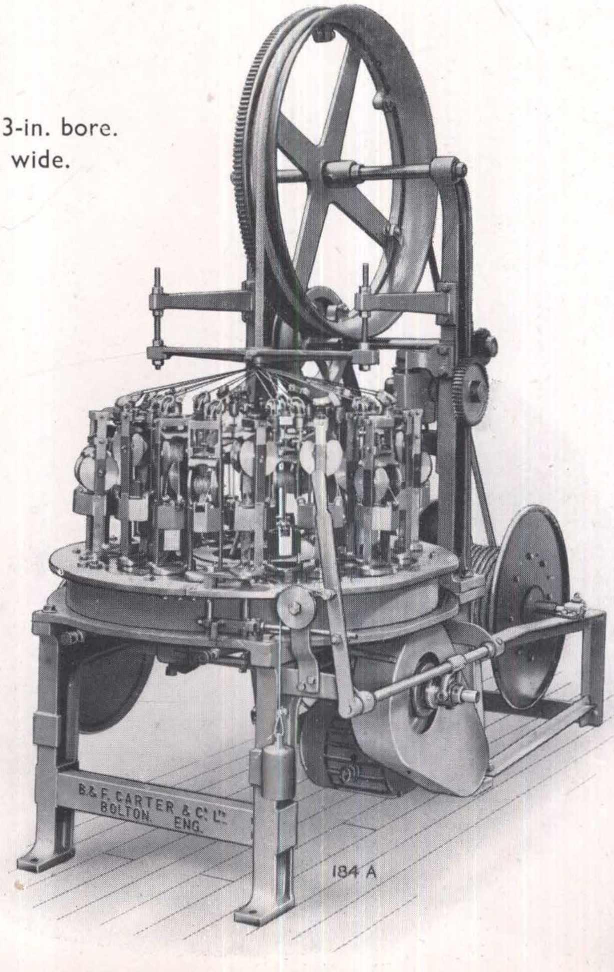
1. Production—completed wrapping time, 30 seconds.
2. Maximum size of coil, 42-in. diameter × 13-in. deep × 13-in. bore.
3. Shuttle Capacity—Coil of Paper, 7-in. diameter × $2\frac{3}{4}$-in. wide.
4. Provision made for Paper Stripping Wire.

Illustration No. 184A

High-speed Single Tier Type 24-carrier Wire Braiding Machine

For Braiding with Steel, Phosphor Bronze or Copper Wire

1. Production—Approximately 192 stitches per minute.
2. Size of double-flanged bobbins, $4\frac{1}{4}$-in. diameter × 2-in. traverse.
3. Haul-off Capstan, 3-ft. 0-in. diameter, with wide face.
4. Automatic Stop Motion when wire breaks.
5. Electric Motor Drive through Multi Vee Belts and Clutch.
6. Complete with built-on Take-up Stands for Drums, 3-ft. 0-in. diameter.
7. This Machine fitted with " Triton " Carriers (See Page 13. Illustration 164).

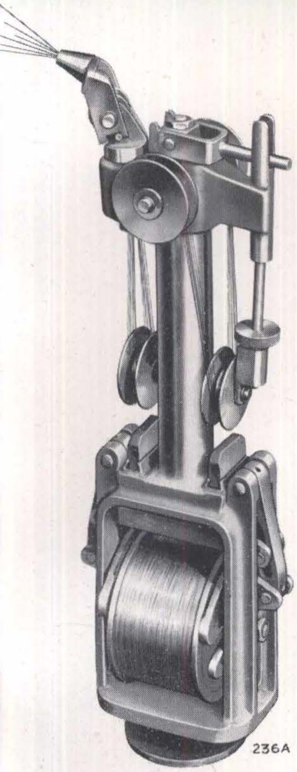


184 A

Photograph of actual product shown on Page 109, Item B.

Braiding Machines

For Aeronautical, Hydraulic, High-pressure Hose for hot oil, glycol, petrol, chemicals, lubrication, compressed air for sustained flexing, rapid changes to extremes of heat and cold.



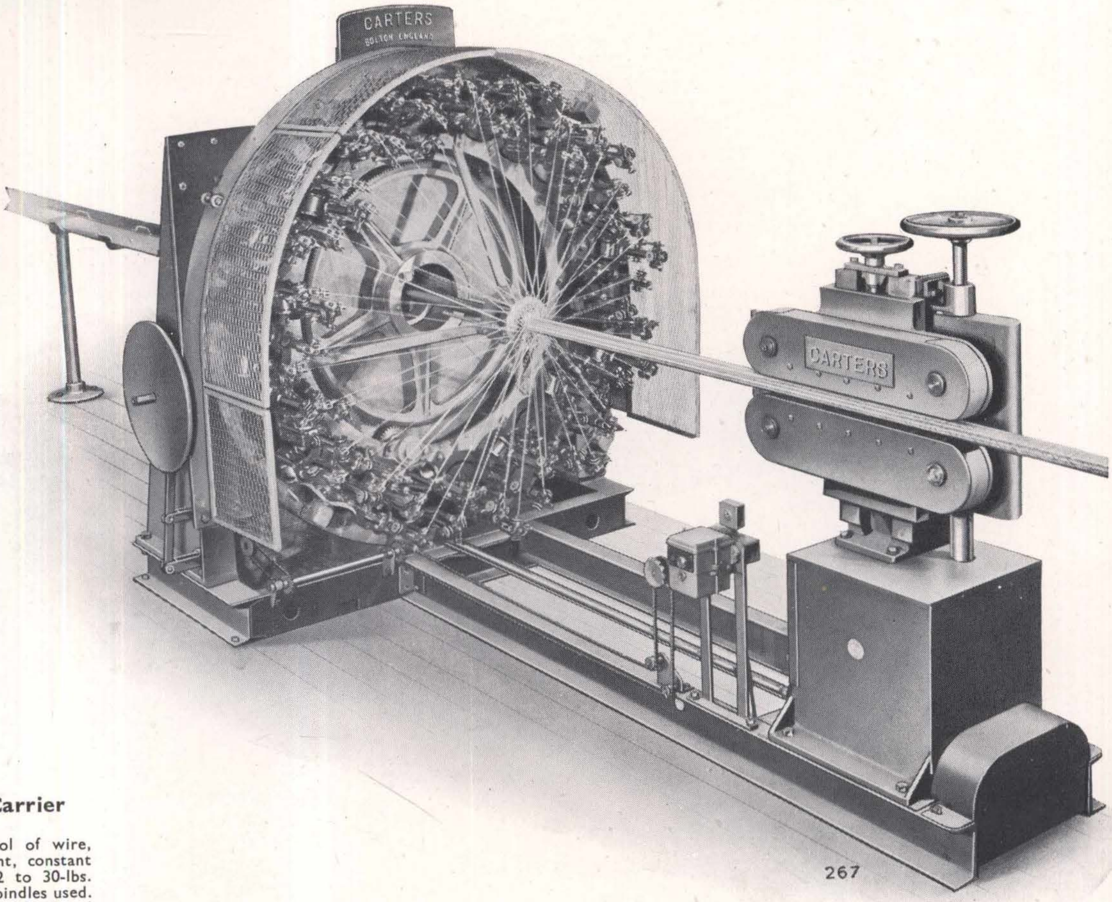
236A

Illustration No. 236A

"Max" High Capacity Wire Carrier

Patents applied for

For precision wire braiding, perfect control of wire, balanced heavy tension by finger adjustment, constant whilst Braiding. Tension obtained from 12 to 30-lbs. Bobbin easily loaded and removed, no loose spindles used. Practically self-lubricating, simple wire threading, fractured and loose wires automatically held until drawn taut. Please Note—Low and sturdy build of Carrier. Capacity :—2,500 yards of 30's gauge single end steel wire.



267

Illustration No. 267

Horizontal 48-Carrier Wire Braiding Machine

Using High Tensile Steel Wire

1 Production 190/200 stitches per minute.

2 Size of double-flanged bobbins, 3¾-in. diameter × 2-in. traverse. Capacity 3¾-lbs., hard steel wire.

3 Haul-off—Continuous Twin Grip Chain Draw-off Motion, with rubber gripping pads eliminating any possibility of slip, self centering for various diameters of hose.
Alternatively a Conveyor Chain Draw-off Motion up to any suitable length can be supplied.

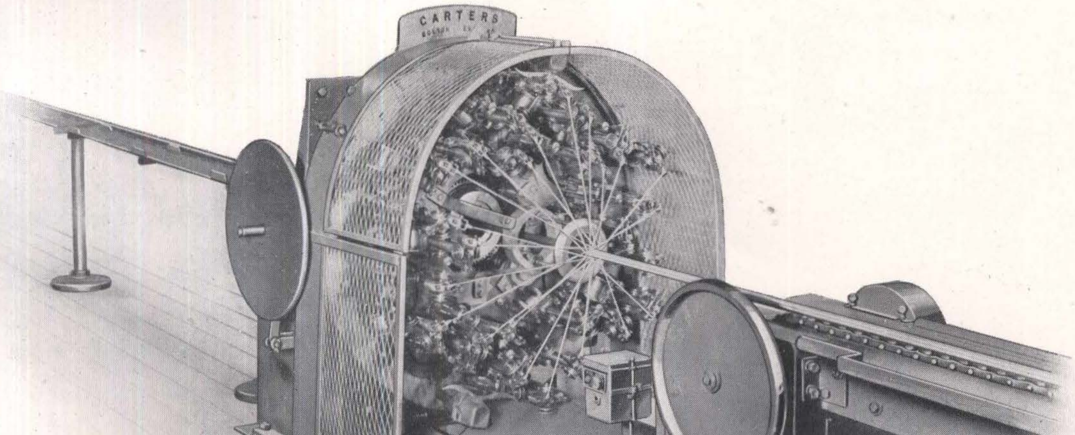
4 Precise angle of stitch can be controlled by change gears and positive variable speed gear.

5 Also Machines can be supplied with the following number of Carriers : 24, 32, 36, 48, 60 and 64.

6 Braiding Heads arranged in tandem.

7 Electric Stop Motion when wire breaks.

8 Drive through Electric Motor, centrifugal clutch and worm reduction gear.



259

Illustration No. 259

Horizontal 24-Carrier Wire Braiding Machine

with Conveyor Chain Draw-off Motion

for DETAILS SEE
Page 102

Wire Coiling or Spinning and Hose Armouring Machines

For working at the end of your making-up bench

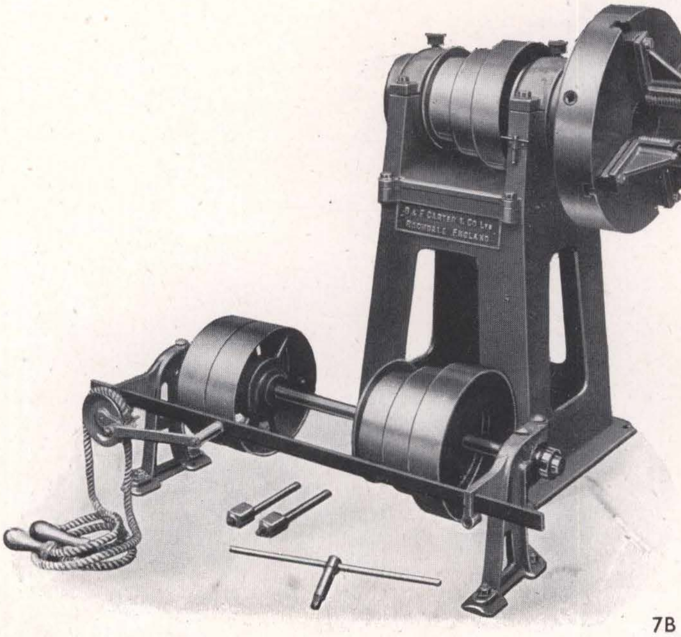

7B

Illustration No. 7B

Hose Armouring Machine

1 Production—Armouring speeds 98, 145, 213 coils per minute.
2 Capacity, ½-in. to 3-in. diameter hose.
3 Spacing rollers fixed to 4-jaw Universal Chuck.

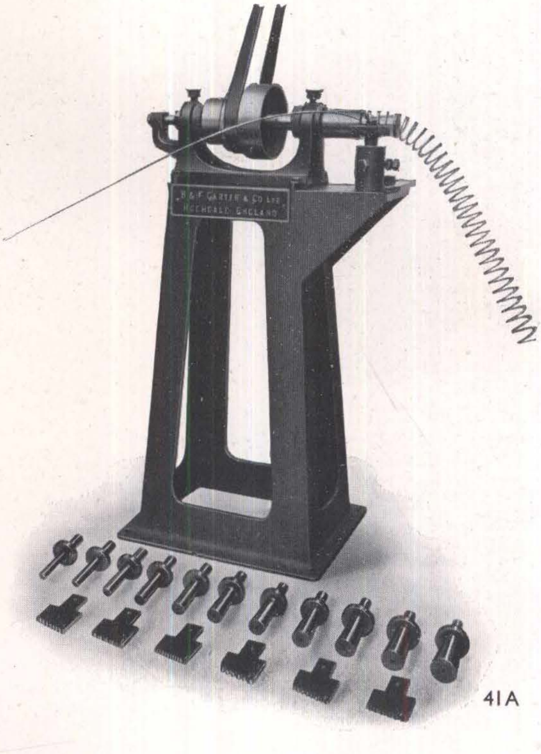

41A

Illustration No. 41A

Wire Coiling or Spinning Machine

1 Production—Spinning speeds, 188, 437, 1,021 coils per minute.
2 Supplied with 12 spinning mandrels and 4 spacing combs.

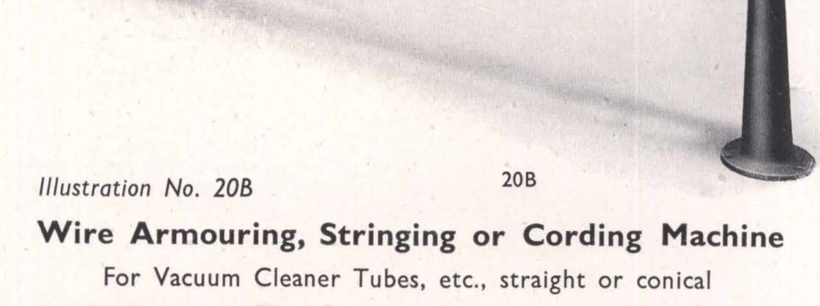

20B

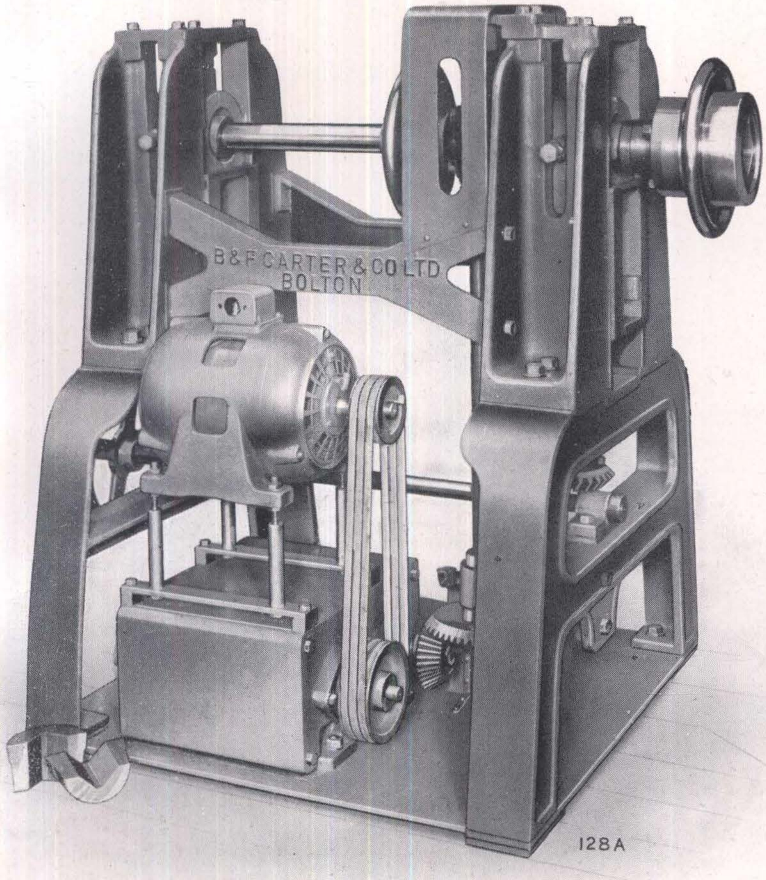
Illustration No. 20B

Wire Armouring, Stringing or Cording Machine

For Vacuum Cleaner Tubes, etc., straight or conical

1 Production 220 coils per minute.
2 To coil hard steel wire, etc., on mandrels correctly up to 10-ft. in length.
3 Spacing of coils can be determined by changewheels.
4 When stringing between wire coils after cloth covering, provision is made for setting between the wire coils.

Further Details
on request



128A

Illustration No. 128A

Variable Speed Headstock

For working at the end of your making-up bench

Production—Spindle Speeds from 24 to 60 r.p.m.

For wrapping or stringing Rubber Hose, etc.

Specially designed for driving mandrels, holding long lengths of rubber hose, etc., up to 60-ft. in length.

Arranged with 2-jaw self-centering chuck of special design, or alternatively Collet Chuck with 4 sets of collets. This can be raised and lowered by means of a hand wheel at the side of the machine, so as to bring the various sizes of hose to the level at which the operator is working. The Clutch Spindle of the machine is fitted with a hand wheel and clutch to enable the operator to adjust the position of the mandrel by hand operation. The maximum height from the floor to the main spindle is 3-ft. 4-in. and the total lift 5-in. Remote control is supplied which enables the operator to start and stop the machine at will, by means of a foot rest which travels the whole length of the mandrel in use. **This is an important feature, as it means that only one operator is needed to work the machine.** Drive by high-torque motor and efficient variable speed gear.

Machine can be supplied either right or left hand and speeds to suit requirements.

Illustration No. 66B

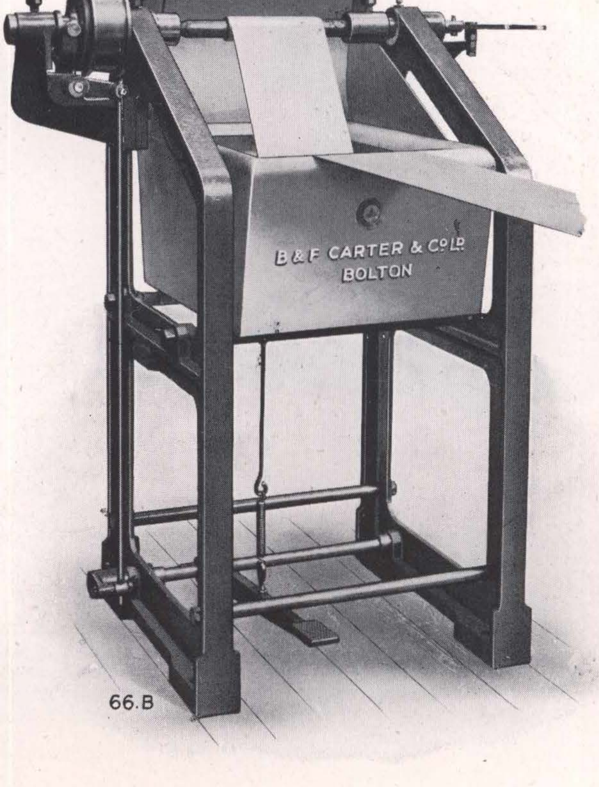
Rag or Wrapping Cloth Rolling Machine

for Rubber Hose

Production—Coiling Speed, 200/300 revolutions per minute.

With welded steel water tank and hood made in one piece. The cloth to be wound on the mandrel is tensioned by means of a phosphor bronze bar situated in the water tank.

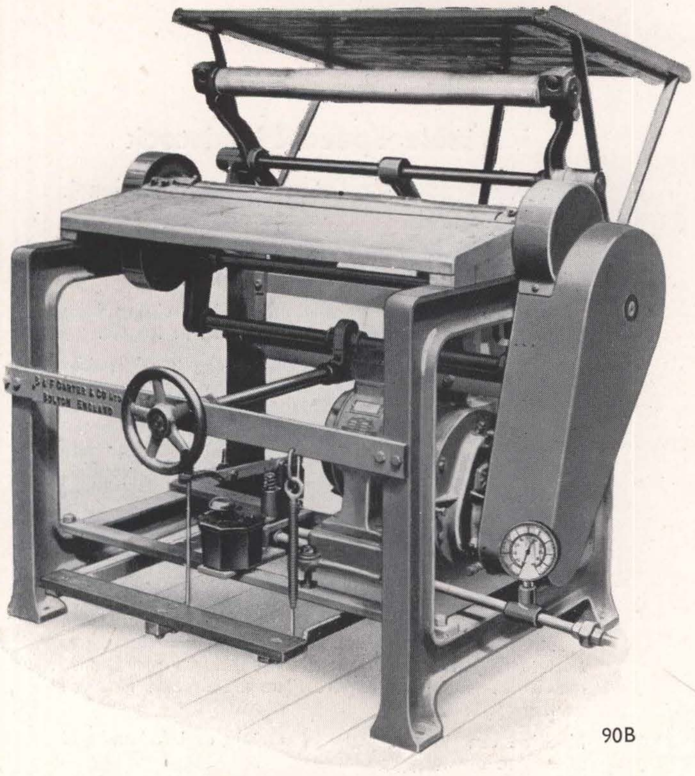
Quick release of the mandrel is obtained by a spring loaded handle. Drive is by belt pulley incorporating a clutch and operated by foot pedal.



66.B

for DETAILS SEE

Pages 101 and 102



90B

Illustration No. 90B

Hose Making and Covering Machine

For the manufacture of Railway Carriage, Steam Heating, Air Brake, Hot Water and Vacuum Tubes, Motor Car Radiator Couplings, etc

1 Production—60 lengths of hose per hour.

2 Capacity—For hose up to 30-in. in length × 3-in. outside diameter.

3 Air Pressure required, 80-lbs. per square inch.

4 Drive by Electric Motor and Vee Belts.

Method of making up :—

The inner tube and lining is first wrapped round the mandrel by hand (alternatively blown on the mandrel by air and placed in the machine). The bias cut frictioned fabric and sheet gum-covered stock cemented to the frictioned fabric is then applied. By means of **a** foot treadle the top roller is brought to rest on the covered mandrel and then begins to revolve. The tube is quickly and evenly rolled on the mandrel and the fabric and outside cover wound round under a correct pressure. The foot is then taken off the treadle, the machine stops and the top roller rises to the opening position, the mandrel is then ready for passing on to the Wrapping Machine.

The Machine can be supplied with wrapping rollers for making up shaped and parallel tubes.

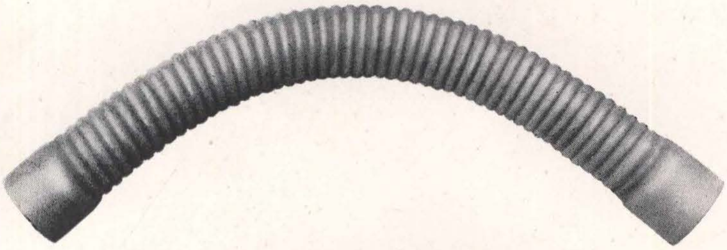


Illustration No. 234H

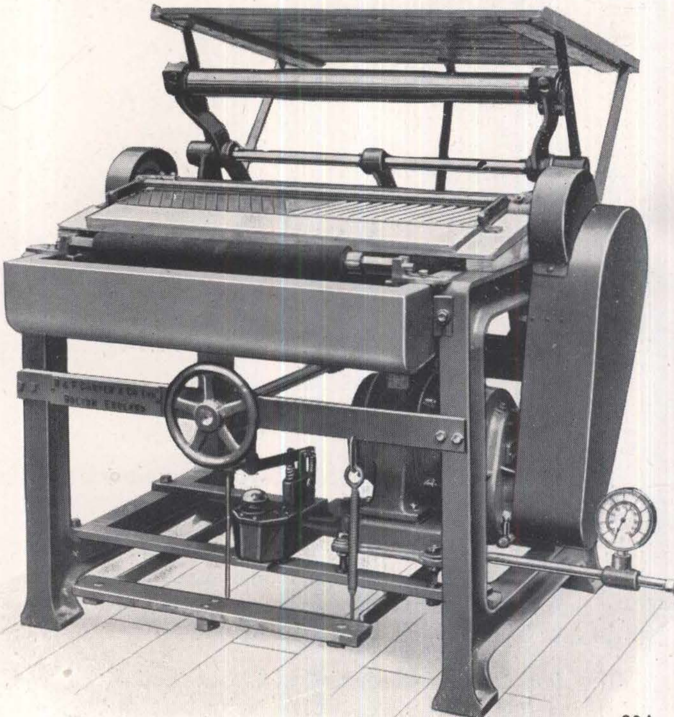
Wire Reinforced Railway Carriage
Steam Heater and Automobile Radiator Coupling Hose

Illustration No. 90A

Hose Wrapping Machine

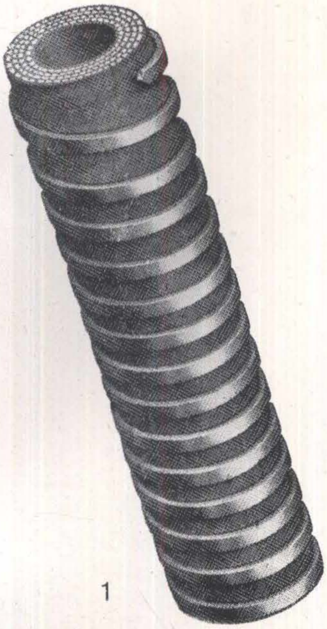
This Machine works in conjunction with the Hose Making and Covering Machine, and is of similar construction.

The cured hose is placed above the water tank, and the cloth as it unwraps passes under the tensioning and spreader bar which is submerged in the water tank, and then over the brass spreading plate which eliminates the wrinkles in the cloth, and afterwards is wrapped on to the uncured hose.



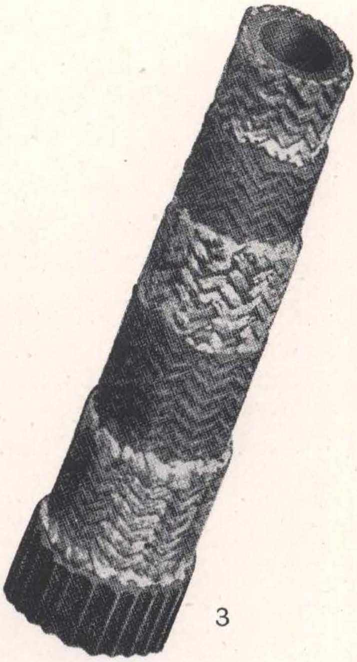
90A

Types of Hose made up on our Machines



1

2



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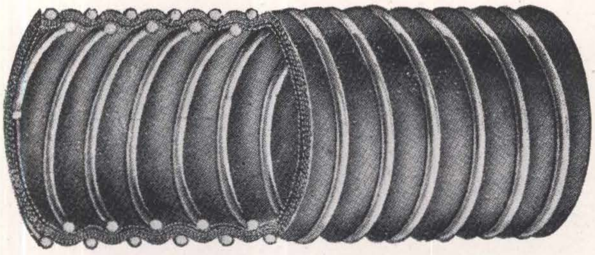
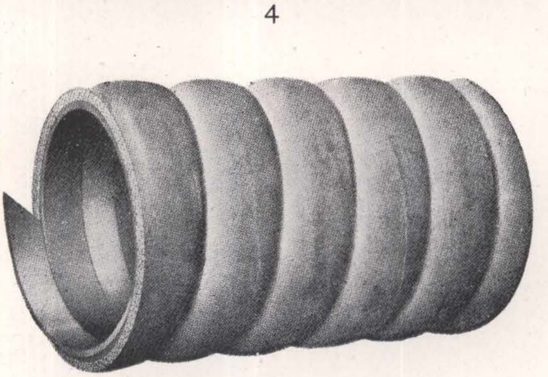


4

5



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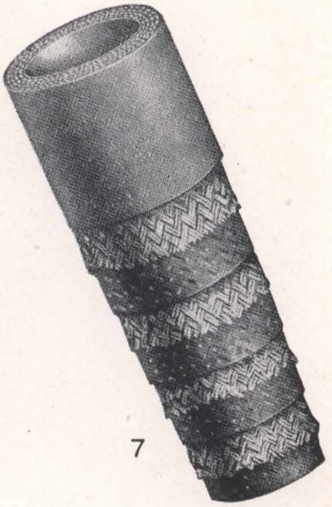


7

1. Pneumatic Tool Hose, Wrapped type. (Galvanized Steel Flat Wire Armoured)
2. Smooth Bore Suction Hose
3. Long Length Yarn Braided Hose, for Rotary Air Drill, Coal Cutters, Rock Drills, etc.
4. Traction Hose. Built up on Spiral Galvanized Steel Wire Core, and externally wire armoured.
5. Oxy-acetylene Tubing, Galvanized Steel wire braided
6. Smooth Bore Suction Hose with flat Galvanized Steel wire internal armouring
7. Yarn Braided Coal Cutter Hose

for DETAILS SEE
Pages 91 and 92

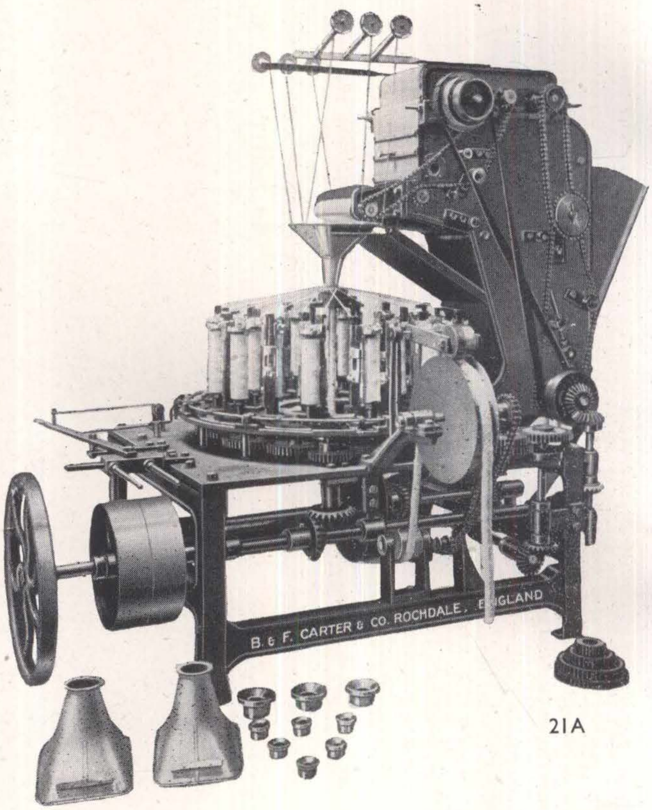
Illustration No. 21A

24-Carrier "E" Type Asbestos Rope Lagging Machine

With Automatic Asbestos Feeder

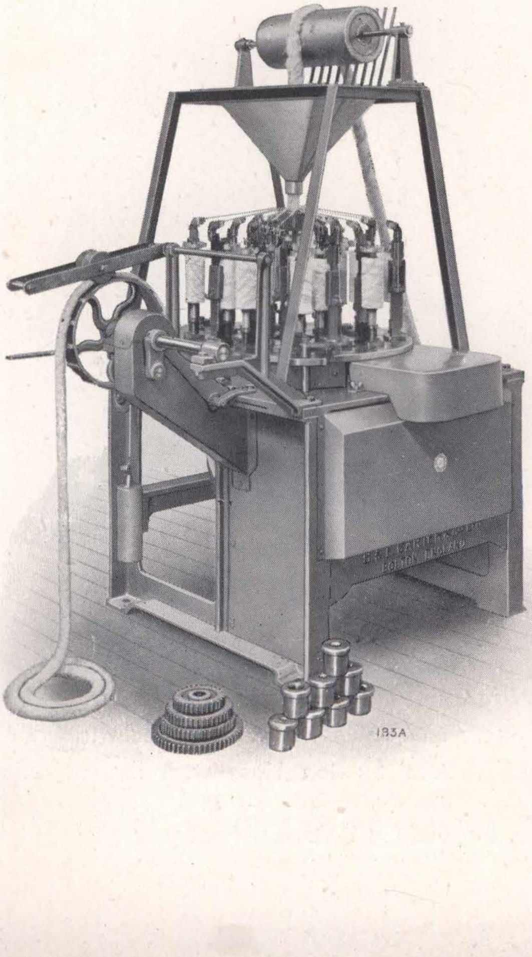
For dealing with disentegrated or open short fibre from $\frac{3}{4}$-in. to 2-in. diameter.

1. Production on approximately 1-in. diameter, 350-ft. per hour.
2. Size of Bobbin or Cheese of yarn, 3-in. diameter × 8-in. traverse.
3. Automatic Knock-off Motion.



21A

IMPORTANT—Tension Weight Carriers with Roller Yarn Guides and Top Swivel Assembly fitted to these machines.



183A

Illustration No. 183A

16-Carrier "E" Type Rope Lagging Machine

For Carded Asbestos Sliver

1. Production 200 stitches per minute.
2. Size of Bobbin or Cheese of yarn, 3-in. diameter × 8-in. traverse.
3. Automatic Electric Knock-off Motion.

or DETAILS SEE

Page 92

Water or Steam Packings

For Pumps, Glands, etc.

Illustration No. 140A

16-carrier "E" Type Braiding Machine

With Downward Take-off

1. Production—" Speedway " Carriers No. 4/441—240 stitches per minute. Tension Weight Carriers 200 stitches per minute. For further details of these Carriers see *Leaflet No.* 10.
2. Size of Bobbin or Cheese of Yarn 3-in. diameter × 8-in. traverse.
3. Automatic Electric Knock-off Motion.
4. Drive through Electric Motor, Clutch and Vee-belts.
5. These Machines can be supplied with various numbers of Carriers.
6. Tension Weight Carriers can be supplied with weights $6\frac{1}{2}$-oz., 1-lb., $1\frac{3}{4}$-lb. and $2\frac{1}{2}$-lb.

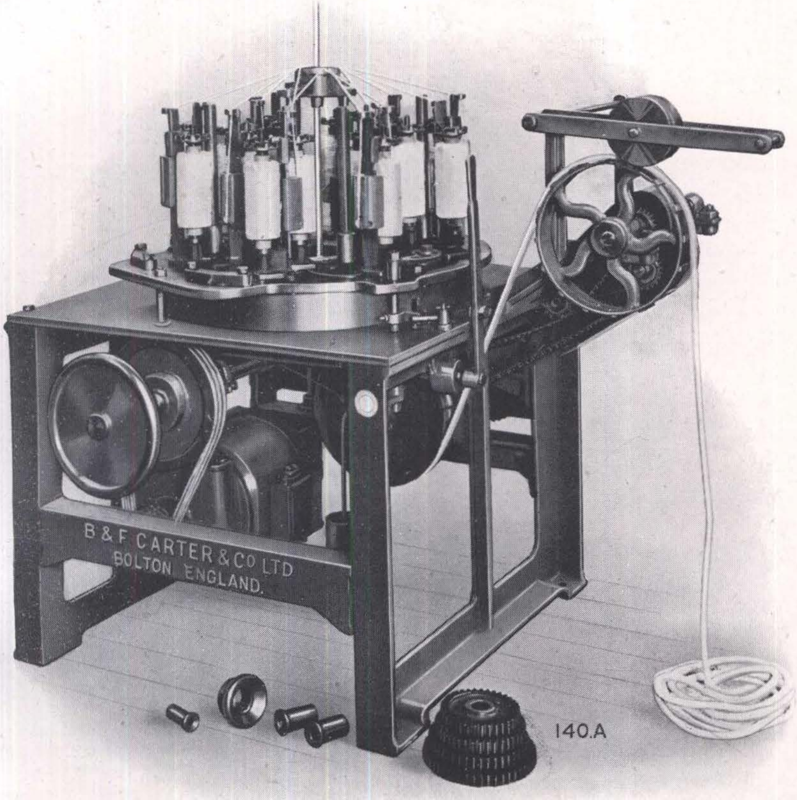
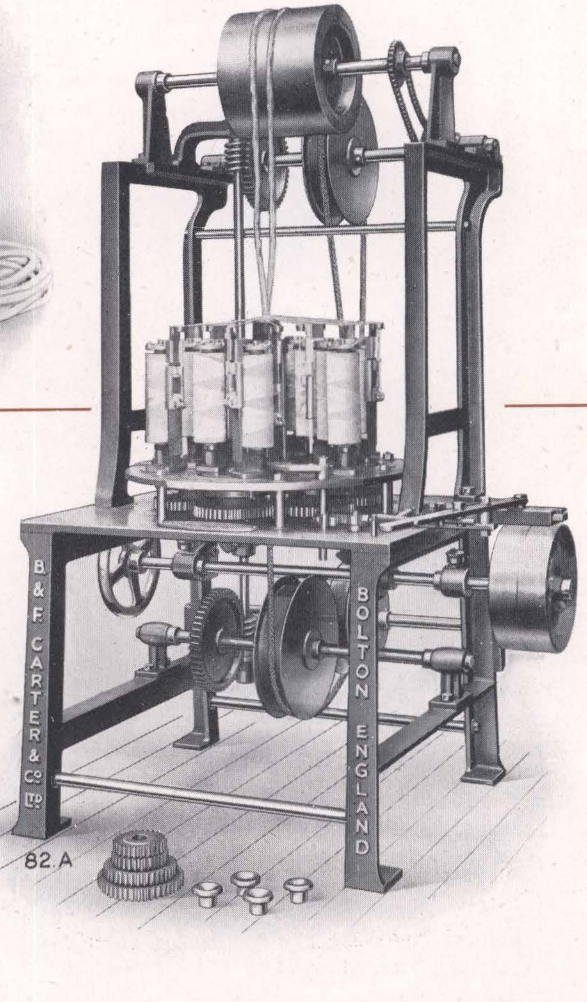


Illustration No. 82A

12-carrier " E " Type Rope Lagging Machine

For Braiding of Asbestos Lagging from Carded Sliver

1. Production 200 stitches per minute
2. Size of Bobbin or Cheese of Yarn 3-in. diameter × 8-in. traverse
3. Automatic Knock-off Motion

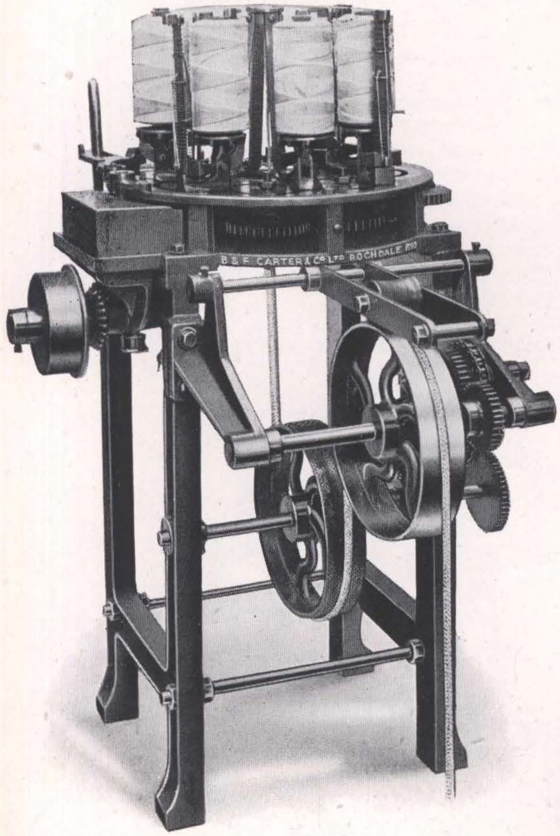


Metallic Packings, etc.

Dry and Grease Impregnated

for DETAILS SEE

Pages 92 and 93



42B

Illustration No. 42B

Braiding Machine

With Downward Take-off

For making Packing or Cord up to $\frac{3}{8}$-in. diameter

1. Production 180 stitches per minute
2. Size of Cheese of Yarn 6-in. traverse × 3-in. diameter, or double-flanged bobbins 5-in. traverse × 3-in. diameter
3. Machine arranged with 8 " Speedway " Carriers No. 4/408. For further details of these Carriers, *see Leaflet No.* 10
4. Automatic Knock-off Motion
5. Drive by single pulley and clutch

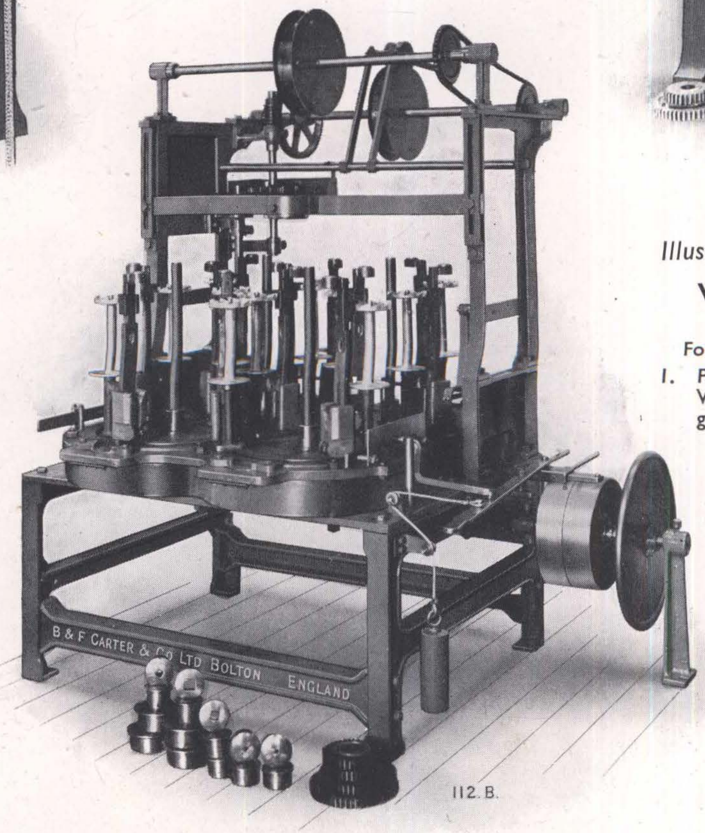
Illustration No. 112B

Vertical Square Plaiting Machine

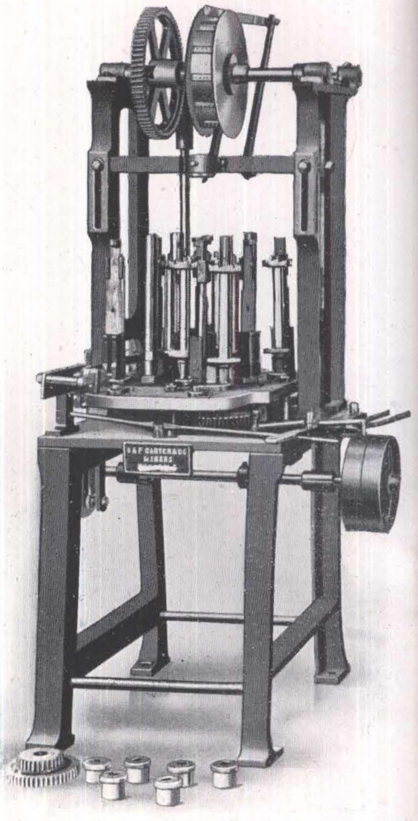
For Square Solid Packings from $\frac{1}{4}$-in. to $1\frac{1}{2}$-in.

1. Production—Speed of Horngear $33\frac{1}{3}$ revolutions per minute, i.e. $\frac{3}{4}$-in. square packing, 8-strands, 4-in. Lay, 66-in. per minute

   $\frac{3}{4}$-in. square packing, 12-strands, 3-in. Lay, 51-in. per minute
2. Size of Double-flanged Bobbins 9-in. traverse × 5-in. diameter
3. Arranged with 12—convertible to 8—Tension Weight Carriers
4. Carriers will accommodate the following weights :—9-lb., 15-lb. and 21-lb.
5. Complete with four tubes for corner fillings
6. Drive either by Electric Motor through Multi Vee-belts, or by flat belt
7. Automatic Knock-off Motion



112.B.



234B

Illustration No. 234B

Vertical Square Plaiting Machine

For square solid Packings up to $\frac{3}{4}$-in.

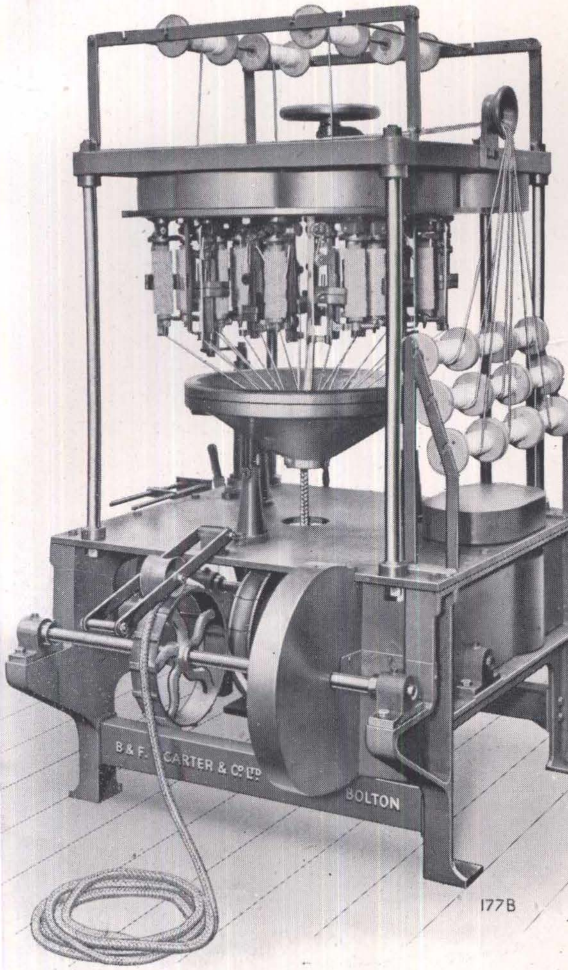
1. Production :—" E " Type Tension Weight Carriers—Speed of Horngear 60 revolutions per minute, i.e. $\frac{1}{2}$-in. square packing, 8-strands, 1-in. Lay, 30-in. per minute
2. Size of Double-flanged Bobbin or Cheese of Yarn 8-in. traverse × 3-in. diameter
3. Machine arranged with 8 Tension Weight Carriers to accommodate the following weights :—$6\frac{1}{2}$-oz., 1-lb., $1\frac{3}{4}$-lb. and $2\frac{1}{2}$-lb.
4. Complete with 4 tubes for corner filling
5. Automatic Knock-off Motion
6. Drive by Flat Belt

Larger Machines for packings up to 3-in. square are manufactured

or DETAILS SEE
Pages 91 and 92

Modern Universal Machine

comprising creel for Yarn, Braiding Head, Heated Grease Tank



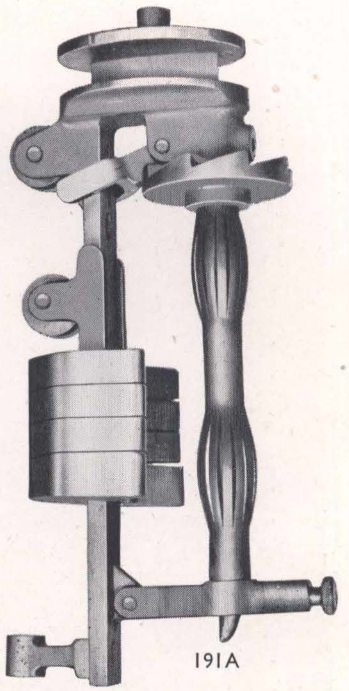
177B

Illustration No. 177B

Inverted Carrier Braiding Machine

For Dry or Lubricated Round and Square Packing

1. Production 200 stitches per minute.
2. Size of cheese or double-flanged bobbin, 6-in. traverse × 3-in. diameter.
3. Fitted with 16 Carriers as illustration No. 191A, with fixed tension of $1\frac{1}{2}$-lbs., can be loaded with 3 additional 1-lb. weights.
4. Capacity up to $1\frac{1}{2}$-in. round or square Packing.
5. Arranged with 4 tubes for corner fillings.
6. Steam heated grease tank so that each yarn can be thoroughly lubricated before being braided, is incorporated.
7. Automatic Electric Knock-off Motion.
8. Drive by flat belt or Electric Motor and Multi Vee Belts.
9. Similar Machine can be supplied with 12 inverted Carriers.



191A

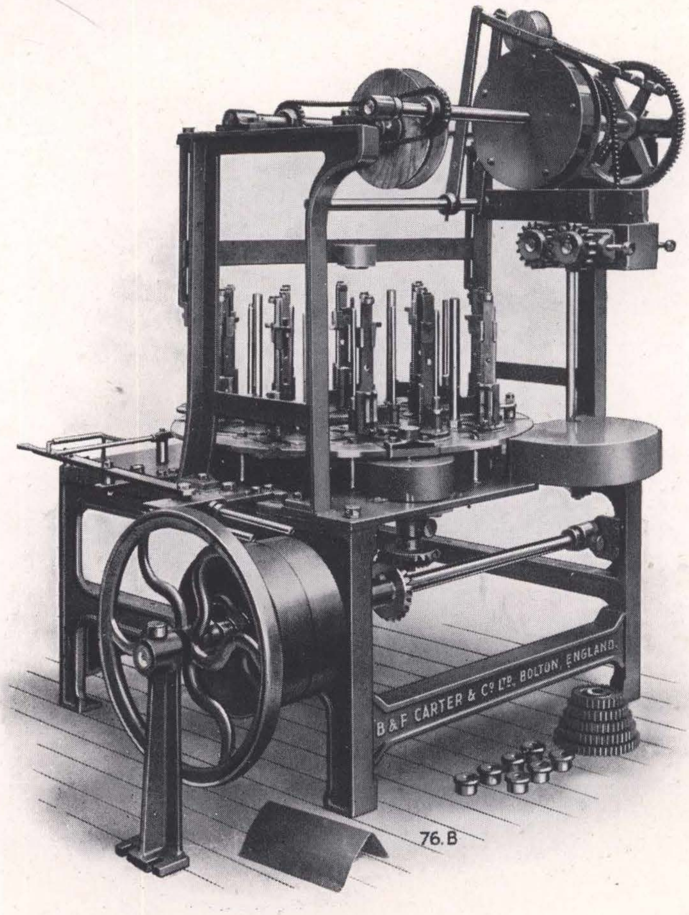
Easy to tension and load.
Minimum yarn friction.

Illustration No. 76B

16-Carrier Vertical Braiding Machine

For round and Square Packings and other Braided Materials from $\frac{1}{2}$-in. to $1\frac{1}{2}$-in.

1. Production—With double-flanged Bobbins or Cheeses of yarn, 8-in. traverse × 4-in. diameter—" E " Type Tension Weight Carriers, 174 stitches per minute. With double-flanged Bobbins or Cheeses of yarn 8-in. traverse × 3-in. diameter—" E " Type Tension Weight Carriers—200 stitches per minute.
2. If fitted with " Speedway " Carriers No. 4/441 and No. 7/599A the above speeds can be increased by approximately 16%. For further details of these Carriers see Leaflet No. 10.
3. The Tension Weight Carrier can accommodate the following weights :—$6\frac{1}{2}$-ozs., 1-lb., $1\frac{3}{4}$-lbs. and $2\frac{1}{2}$-lbs.
4. Complete with four tubes for corner filling.
5. Automatic Knock-off Motion.
6. Drive by Flat Belt.
7. Similar Machines can be supplied with 12, 16 and 24 Carriers.



76.B

for DETAILS SEE

Pages 92 and 93

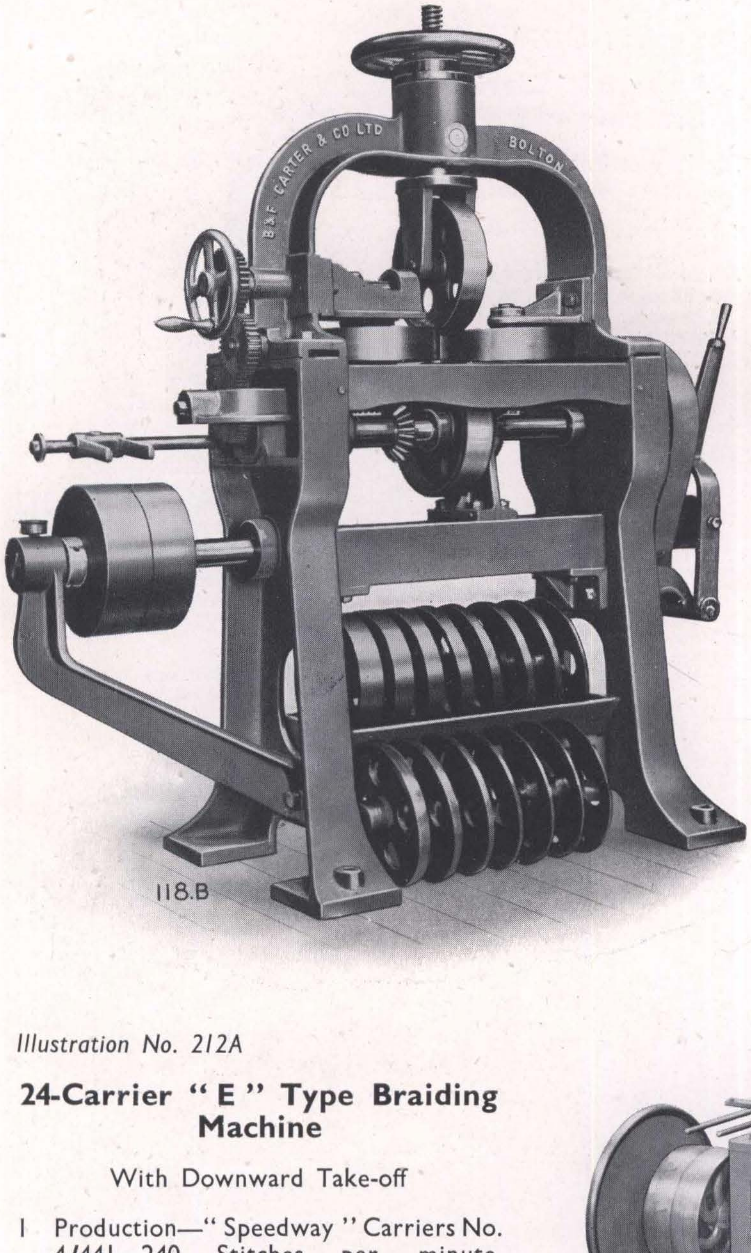


Illustration No. 118B

Adjustable Machine

For forming Packings into Square or Rectangular Form, and Forming Brake-Linings, etc.

Production 44$\frac{1}{2}$-ft. per minute. With three discs or dies, positively geared. Top Rail mounted on two Cast Iron Standards, and with screw adjusting arrangement for raising and lowering the top interchangeable disc or die (only necessary to remove one disc to alter width of form).

Fast and Loose Pulley Drive. (Electric Motor Drive through Multi Vee Belts can be supplied if desired.)

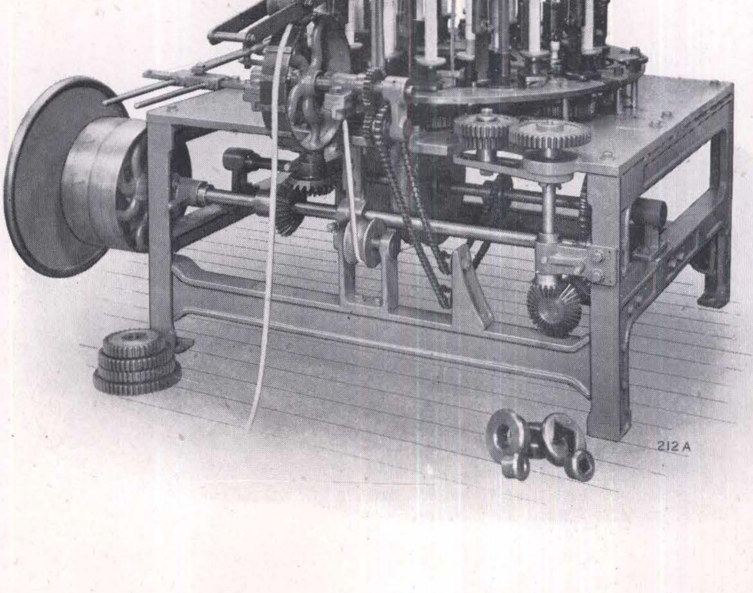
Capacity of Machine illustrated—$\frac{3}{16}$-in. to 2-in. Larger Machines available up to a capacity of 4-in.

Illustration No. 212A

24-Carrier " E " Type Braiding Machine

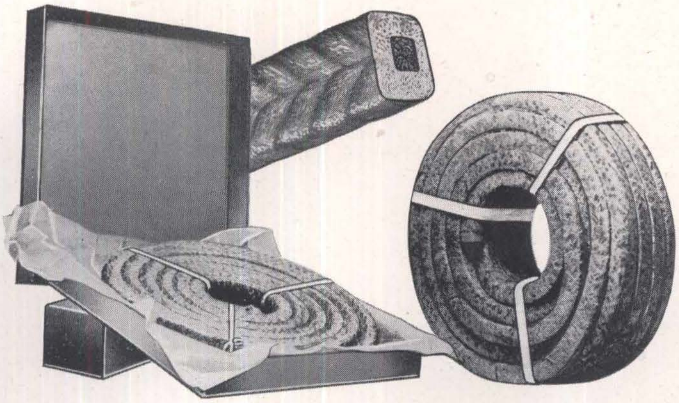
With Downward Take-off

1 Production—" Speedway " Carriers No. 4/441—240 Stitches per minute. Tension Weight Carriers, 200 Stitches per minute. For further details of these Carriers, see Leaflet No. 10.
2 Size of Bobbin or Cheese of yarn, 3-in. diameter × 8-in. traverse.
3 Automatic Knock-off Motion.
4 These Machines can be supplied with various numbers of Carriers.
5 Tension Weight Carriers can be supplied with weights 6$\frac{1}{2}$-ozs., 1-lb., 1$\frac{3}{4}$-lbs., and 2$\frac{1}{2}$-lbs.

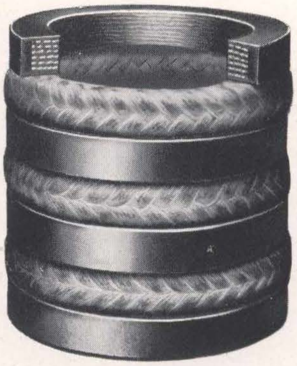


Accurately Form and well finish your packings

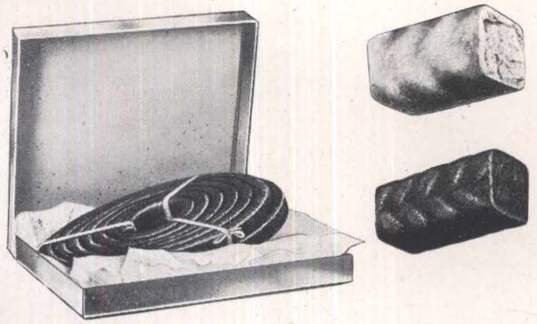
Braided and Plaited Packings



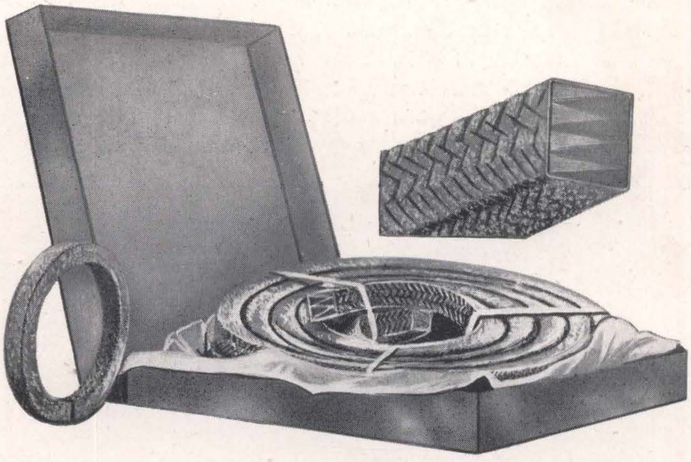
Plaited Hemp Packing, reinforced with strands of Anti-friction Metal



Plaited Cotton Packings and Metallic Packings



Square Plaited Hydraulic Packing



Packing constructed from wedge-shaped strips of Chrome Leather with Braided Cover

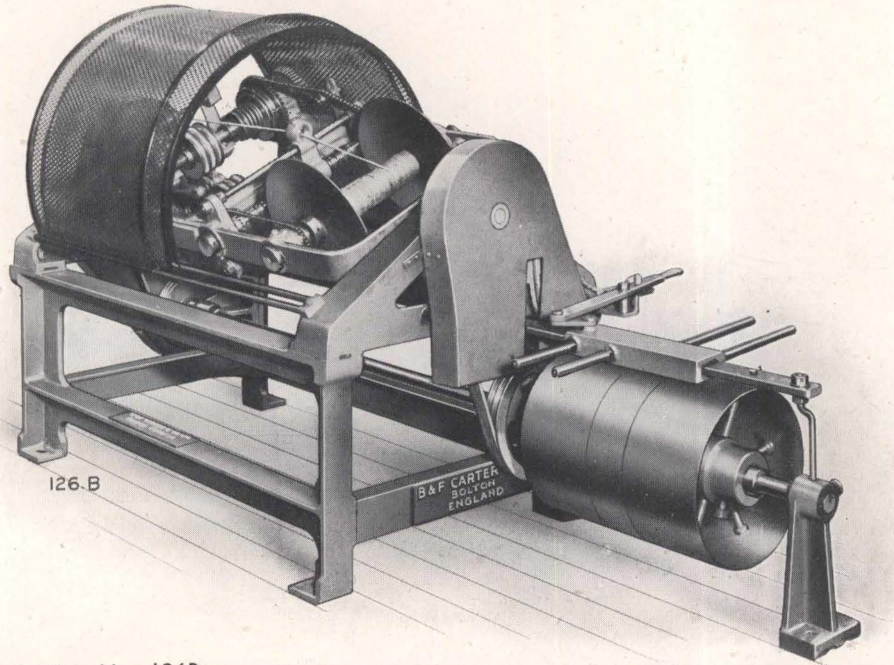
Actual Photographs of Packings made on our Machines

Coiling and Twisting

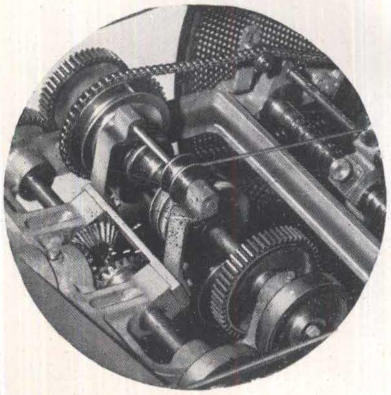
For Twisting Universal Packings and Cores, dry, greasy or graphited

for DETAILS SEE

Page 93



126.B



126A

Illustration No. 126A

Gear Change to Grooved Positive Draw-off Motion and Bobbin Traverse Screw

Illustration No. 126B

High-speed Constant Pitch, Rope or Core Twisting Frame

1. Production—200 Twists per minute, right or left-hand
2. Capacity—Bobbin or Reel 14-in. diameter × 8-in. traverse
3. Will make up Hemp, Jute, Cotton or Asbestos
4. The number of twists over a given length can be regulated by changewheels
5. Drive by Flat Belt or Electric Motor and Multi Vee-belts, with Push Button Control for forward and reverse
6. *See page* 68 for Yarn Supply Creel, and Heated Grease Tank

Illustration No. 234A

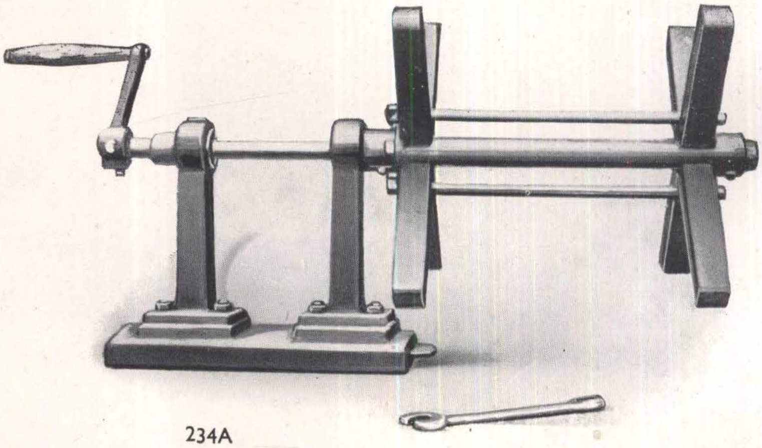
Hand Coiling Machine

For coiling Round and Square Packings, Asbestos Rope Lagging, etc.

Hardwood Flanges 24-in. diameter

Will make coils up to 20-in. diameter × 18-in. wide

When the coil has been wound, taped and ready to be taken off, the end flange can be easily removed, and the four centre rods that support the coil collapse, so that the coil can be drawn off quite easily



234A

Guards supplied to suit the Factory Act

DETAILS SEE
Page 104

Tanks and Bobbin Creel

Impregnated Tanks and Yarn Creel

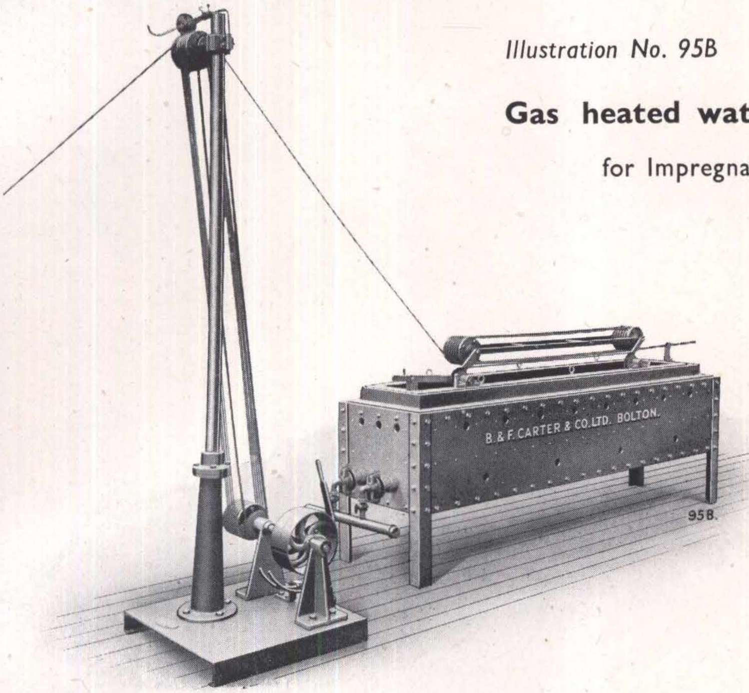
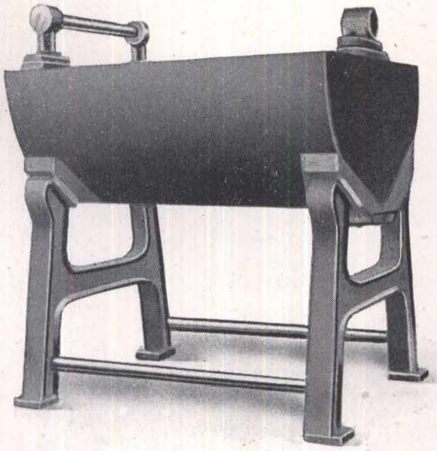

B. & F. CARTER & CO. LTD. BOLTON.
95B.

Illustration No. 95B

Gas heated water-jacketed Grease Melting Tank

for Impregnating Ropes, Cords, Lines, Cables, etc.

1. Size of steel constructed tank 7-ft. 6-in. long, 1-ft. 0-in. wide, 1-ft. 0-in. deep
2. Heated by tubular burners fitted with natural draught type ejector
3. Ball Valve incorporated inside the Water Jacket to automatically regulate the water level
4. Tank fitted with grooved dipping rollers for easy threading
5. Haul-off Arrangement designed to allow impregnated material to cool before passing into the container
6. Drive by Flat Belt
7. For Steam Jacketed Steel Tanks, maximum working pressure 160-lb. per sq. in., see *page* 36



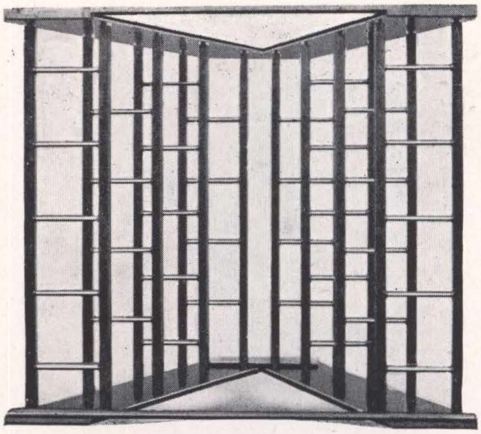
237B

Illustration No. 237B

Steam Jacketed Grease Tank

Inside dimensions 24-in. × 18-in.

Arranged with Die at one end so that the threads to be greased can be brought through this Die and passed under rollers which are fixed at the bottom of the tank, to keep the material submerged



237A

Illustration No. 237A

Yarn Supply Creel

Capacity to suit customer's requirements

Size and design of Tanks can be supplied to suit requirements

for DETAILS SEE
Page 89

EFFICIENT CARRIERS PAY

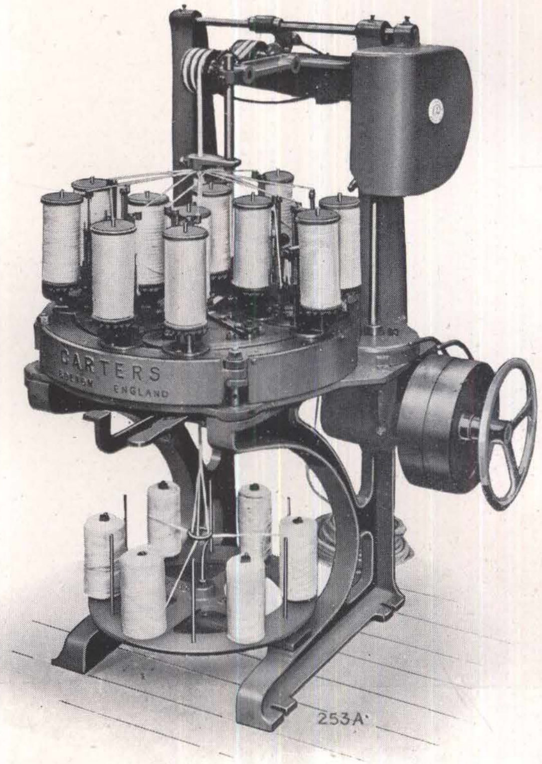


Illustration No. 253A

High-speed 12-Carrier Solid Cord Machine

1. Production—Carrier Speed, $25\frac{1}{2}$ revolutions of the track per minute, i.e., $22\frac{1}{2}$-in. of cord per minute, as illustration Fig. B.
2. Size of Double-flanged Bobbin, 6-in. traverse × $3\frac{1}{4}$-in. diameter.
3. It will be noted that the cord made on this Machine is totally different than the braided or plaited cord. It is much stronger and more solid, the stitch running lengthways resembling a woven stitch, and not herringbone or basket stitch.
4. Automatic Stop Motion when yarn breaks.
5. Drive by Flat Belt.
6. Similar Machines can be supplied with 18 or 20 Carriers.
7. Dies for 12 Carrier Machine $\frac{1}{4}$-in., $\frac{5}{16}$-in. and $\frac{3}{8}$-in.
   Dies for 18 Carrier Machine $\frac{1}{4}$-in. to $\frac{1}{2}$-in.
   Dies for 20 Carrier Machine $\frac{1}{4}$-in. to $\frac{5}{8}$-in.
8. Ease of Threading on Haul-off.

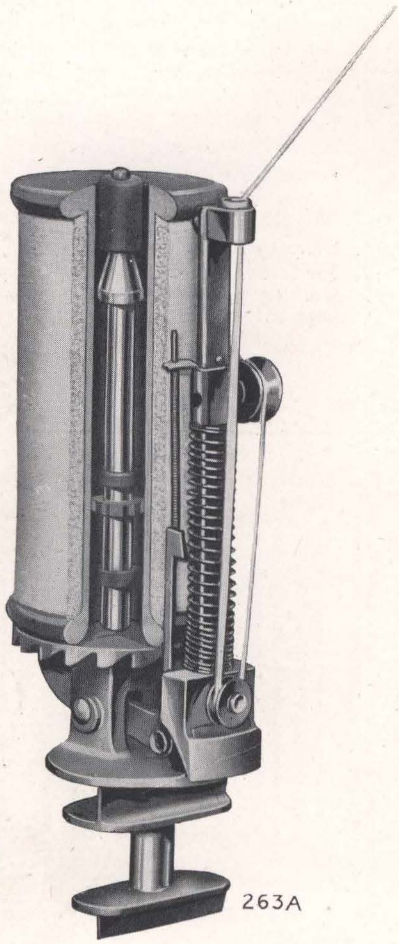
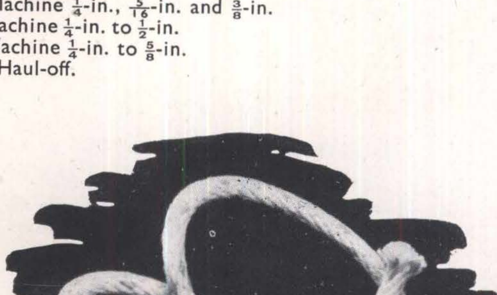


Illustration No. 263A

Patent "Speedway" Solid Cord Carriers

Patent Nos. 543502 British, 1843752 U.S.A. 1184406 German.

This type of carrier is made up practically of steel and fitted with anti-friction guide rollers where necessary. Fitted to these carriers are our "Rol-Holders" easy on the hand and yarn with rubber rings suitable for parallel cardboard tubes and bobbins $\frac{5}{8}$-in. bore.



(C) Solid Cord

or DETAILS SEE
Page 89

Cord Making Machines

Superior Hard

EFFICIENT CARRIERS PAY

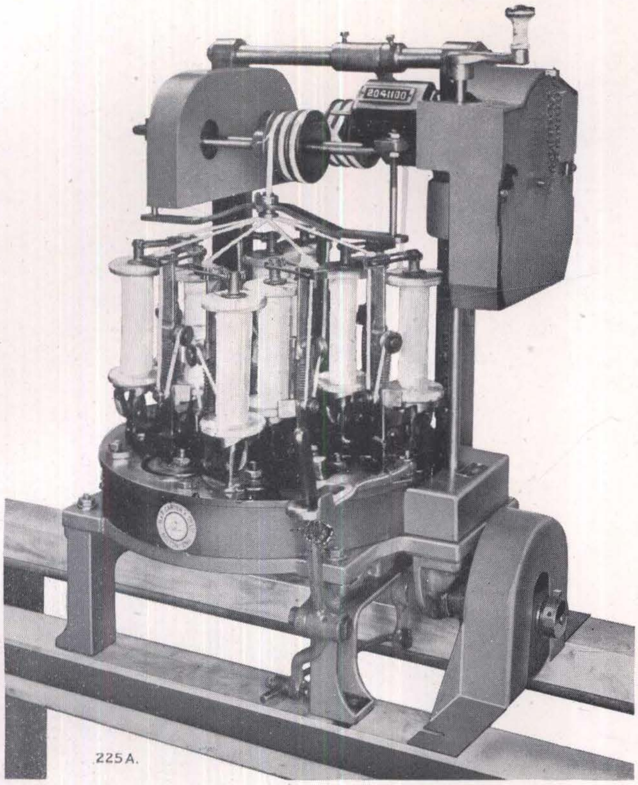


Illustration No. 225A

High-speed 8-Carrier Bench Braiding Machine

For producing a superior hard cord at a high production

1. Production 180 stitches per minute, i.e. $\frac{5}{16}$-in. diameter cord, as illustration Fig. A, 3-ft. 4-in. per minute.
2. Size of Cheese of Yarn, 6-in. traverse × 3-in. diameter, or double-flanged Bobbin, 5-in. traverse × 3-in. diameter.
3. Grooved Cord Stretching Haul-off Gear situated close to the braiding point.
4. Similar Machines can be supplied with 12 or 16 Carriers.
5. Automatic Stop Motion when yarn breaks.
6. Drive by Flat or Vee Belts.
7. Dies for 8 Carrier Machine up to $\frac{5}{16}$-in.
   Dies for 12 Carrier Machine up to $\frac{3}{8}$-in.
   Dies for 16 Carrier Machine up to $\frac{1}{2}$-in.

(A) **Sash Cord**

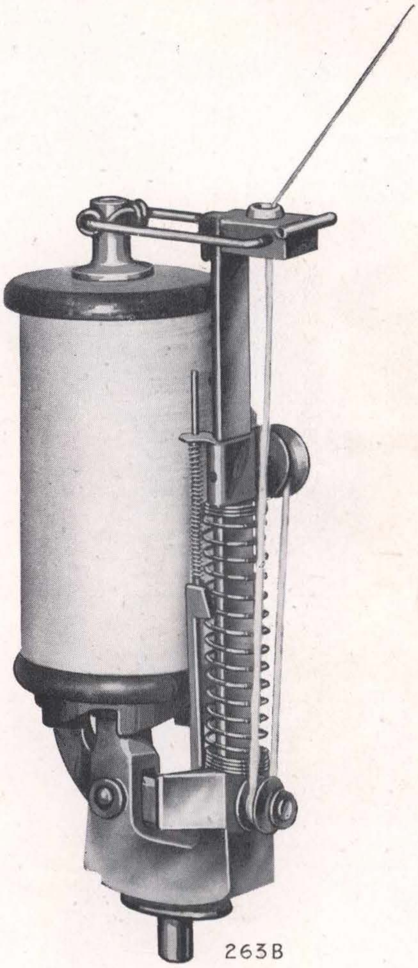


Illustration No. 263B.

No. 4/408 Patent "Speedway" Carrier

Patent Nos., British 543502 ; U.S.A. 1843752 ; German 1184406

This type of Carrier is recommended and generally used where a hard braided cord is required.

Ingenious Bracing Link at the top of the Carrier ensures that there is no slackness on the braid due to the back vibrating.

Frictionless Roller Guides fitted throughout to allow free running of the yarn.

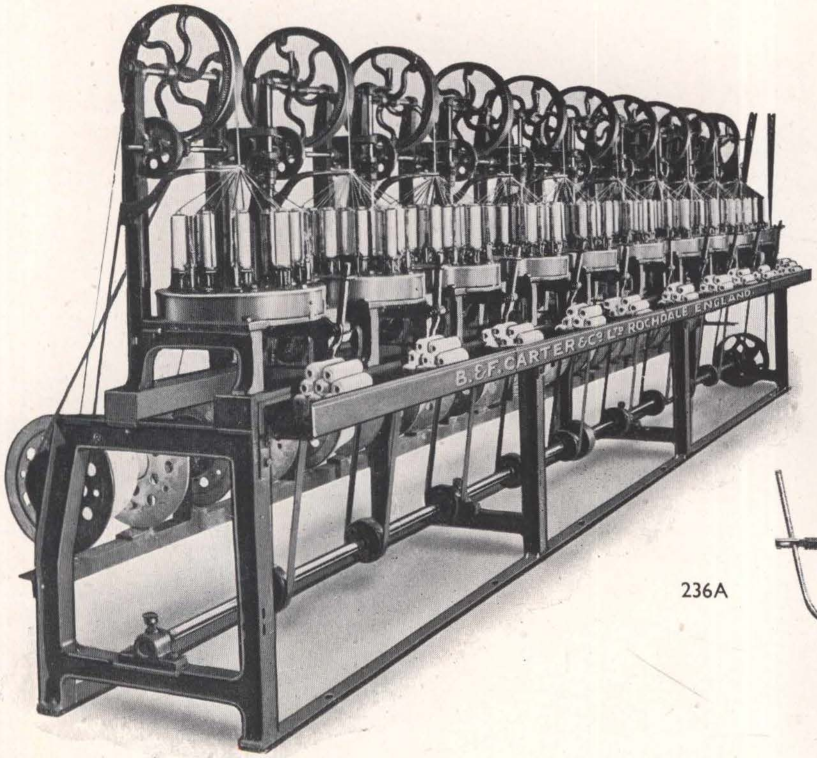
Bench Braiding Machines

For Tubular Braiding, Banding, Shoe Laces,
Fishing Lines, Cords etc.

for DETAILS SEE

Pages 87 and 88

EFFICIENT CARRIERS PAY



236A

Illustration No. 236A

Mounting Mechanism for Braiding Machines

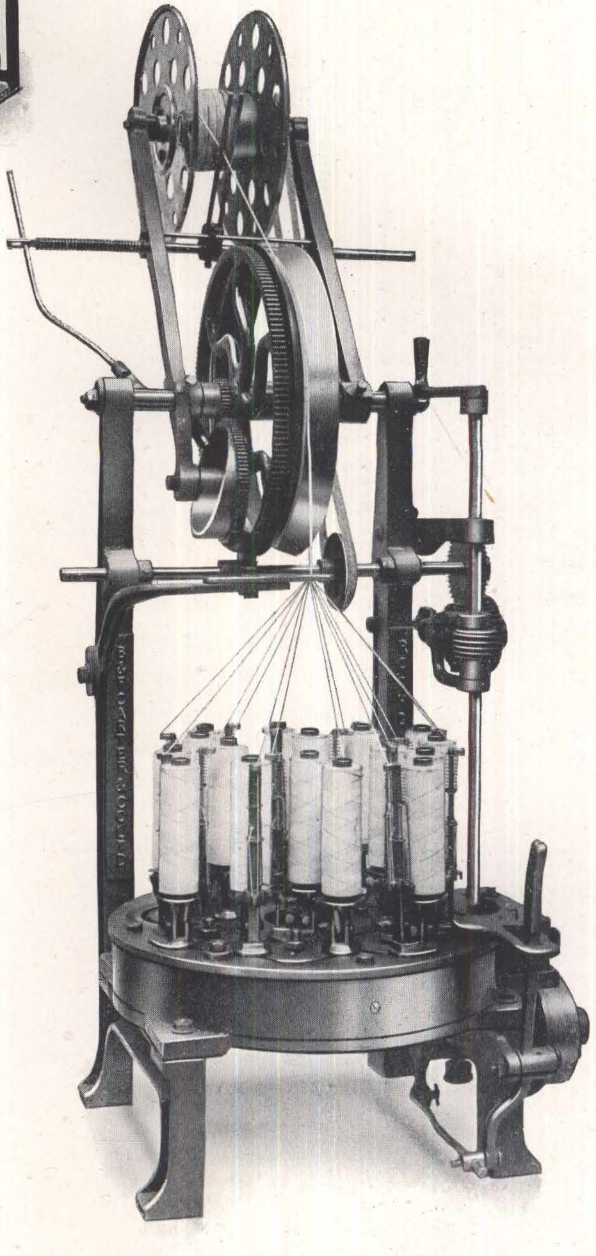
With combined Driving Gear and Drum or Reel Stands single-sided suitable for mounting ten 16-carrier High-speed Bench Braiding Machines, supported on wooden blocks, situated in two lengths of mild steel, running the full length of the mechanism which helps to eliminate noise and vibration.

The Driving Shaft is fitted with ten pulleys suitable for Vee Belt Drive (endless or jointed, at will, type), or flat belt drive. The shaft is fitted with self-aligning, ball-bearing plummer blocks and fast and loose pulleys.

Situated at the front of the mechanism is a strong polished wooden trough for holding full and empty tubes of yarn.

Automatic Traverse Motion can be fitted to this mechanism for laying the finished material on to the drums or reels.

Electric Motor Drive through Multi Vee Belts if desired.



26A

Illustration No. 26A

16-Carrier Bench Braiding Machine with Traverse Motion and Coiling Drum

1. Production approximately 544 stitches per minute.
2. Size of Cheese of yarn, 5-in. traverse × $1\frac{13}{16}$-in. diameter, or double-flanged bobbins, 4-in. traverse × $1\frac{3}{4}$-in. diameter.
3. Haul-off Capstan, 14-in. diameter.
4. Automatic Stop Motion when yarn breaks.
5. Drive by Flat or Vee Belts.
6. Coiling Drum, 12-in. diameter × $4\frac{1}{2}$-in. between flanges, and Traverse Motion is driven from the machine making it a self-contained unit.
7. Similar machines can be supplied with 12, 24 or 32 Carriers.

Patent "Speedway" Carriers fitted to these machines

r DETAILS SEE
Page 87

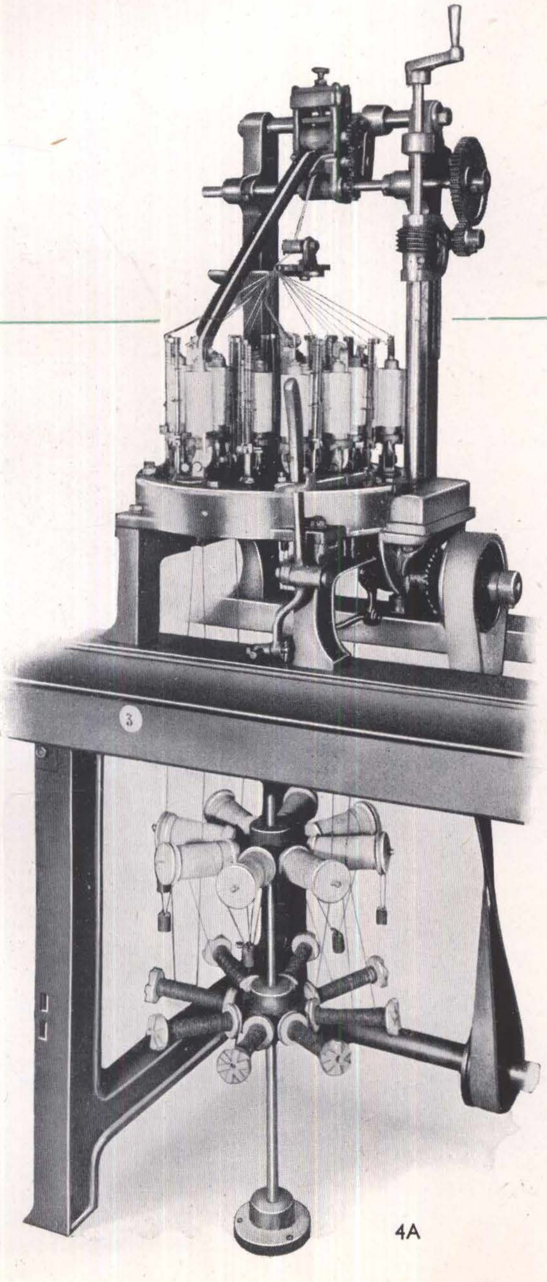
Bench Braiding Machines

For Flat and Square Braids, Tapes, Cords, Elastic, etc.

Illustration No. 4A

17-Carrier Bench Braiding Machine

1. Production " Speedway " Carriers approximately 600 stitches per minute
   Weight and Dropper Carriers 360 stitches per minute
2. Size of Cheese of Yarn $4\frac{1}{2}$-in. traverse × $1\frac{1}{2}$-in. diameter, or Double-flanged Bobbins $4\frac{1}{2}$-in. traverse × $1\frac{1}{2}$-in. diameter
3. Callender Type Take-off
4. Automatic Stop Motion when Yarn breaks
5. Drive by Flat or Vee-belts
6. Circular Creel for carrying Bobbins of elastic with thread tensioning device can be supplied
7. Similar Machines can be supplied with 13, 15, 21, 25, 29, 37, 41, 53, and 65 carriers



4A

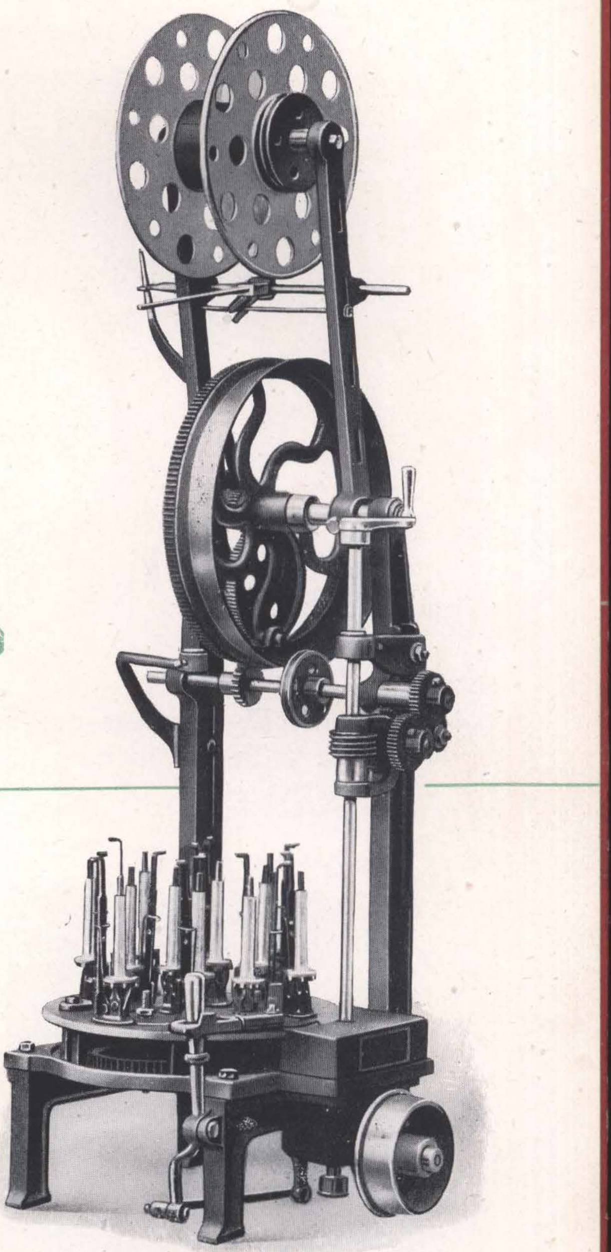


Illustration No. 233K

233K

12/8-Carrier Square Cord Bench Plaiting Machine

1. Production—12-carrier " Speedway " — 585 stitches per minute.
   Production—8-carrier " Speedway " — 390 stitches per minute
2. When fitted with 12-carriers, size of Cheese of Yarn $4\frac{1}{2}$-in. traverse × $1\frac{1}{2}$-in. diameter, or Double-flanged Bobbins $4\frac{1}{2}$-in. traverse × $1\frac{1}{2}$-in. diameter. When fitted with 8-carriers size of Cheese of Yarn 5-in. traverse × $1\frac{13}{16}$-in. diameter or Double-flanged Bobbins 5-in. traverse × $1\frac{13}{16}$-in. diameter
3. Haul-off Capstan 14-in. diameter
4. Automatic Stop Motion when yarn breaks
5. Drive by Flat or Vee-belts
6. Coiling Drum 12-in. diameter × $4\frac{1}{2}$-in. between flanges
7. Traverse Motion is driven from the Machine, making it a self-contained unit

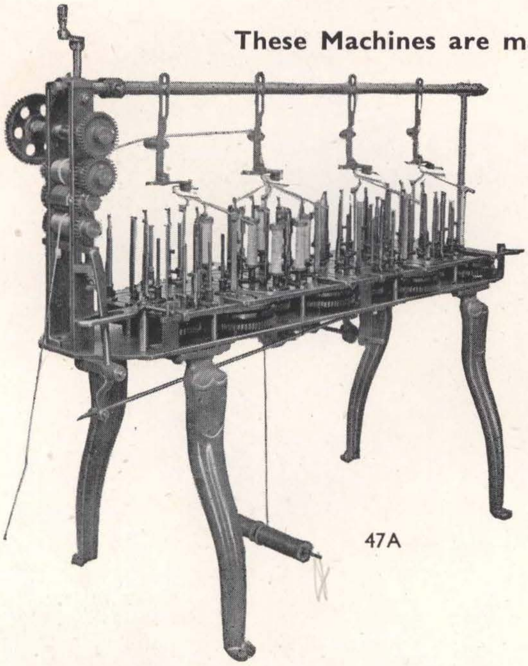
This machine is fitted with our patent " Speedway " Carriers No. 900AC, complete with our patent Rol-holders, as illustrated on page 19, Illustration No. 191B.

Round and Flat Braids

Cords, Boot, Shoe, Corset Laces, Silk and Cotton Elastic, Fishing Lines, Etc., as shown on pages 76 and 111

for DETAILS SEE
Page 87

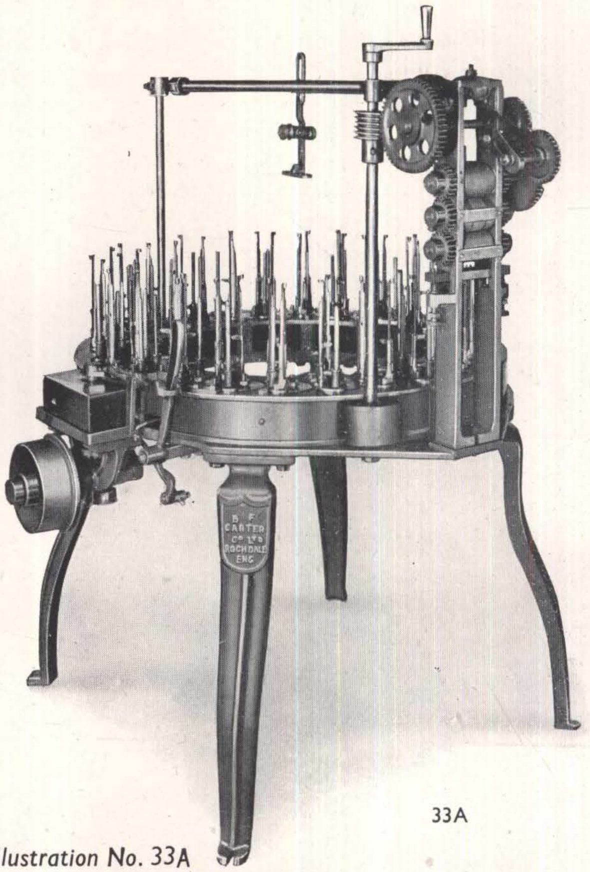
These Machines are manufactured with any number of Carriers



47A

Illustration No. 47A

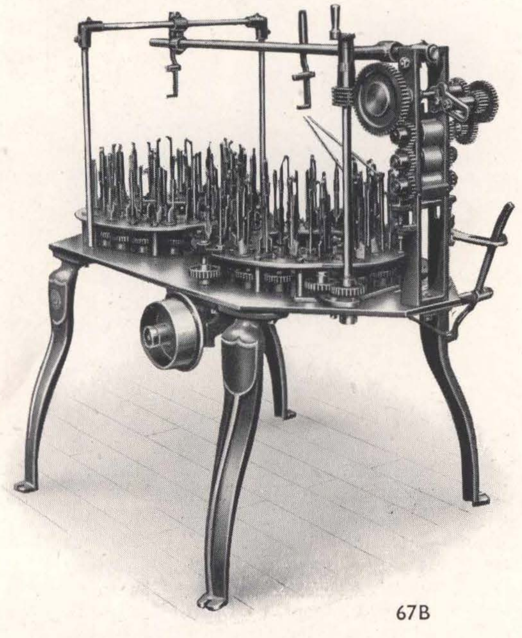
4-head with 17 Carriers per Head
"A" Type Machine
For Flat and Elastic Braids



33A

Illustration No. 33A

52-Carrier 3·2-in. diameter Horngear Tubular Braiding Machine
For Boot, Shoe and Corset Laces, etc.



67B

Illustration No. 67B

2-head with 33 Carriers per Head
"A" Type Machine
Convertible to 32-carrier for Flat or Tubular Braids

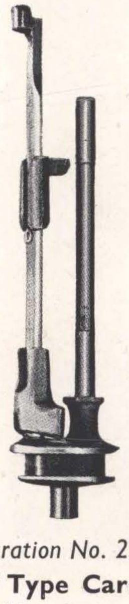


Illustration No. 233G

"A" Type Carrier
with 1, 1½ or 2 oz. weights

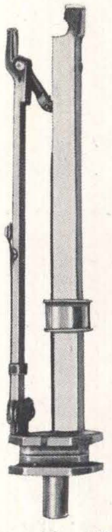


Illustration No. 233F

Box Type Carrier
Supplied with bobbin height regulator and internal tension weight to suit customer's requirements

or DETAILS SEE

Page 87

Various Products

Made on this type of Machine shown on pages 76 and 111

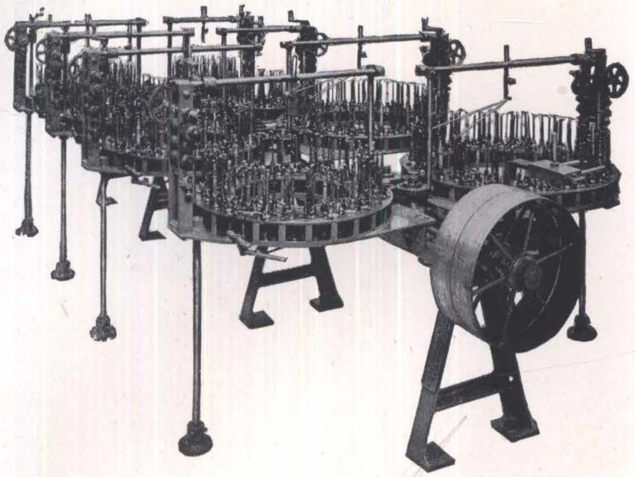


Illustration No. 2A

Battery of " A " Type Braiding Machines

Complete with Mounting Mechanism, with two 65-carrier, two 52-carrier, three 48-carrier and three 32-carrier Machines.

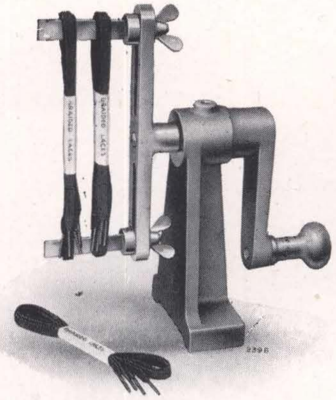


Illustration No. 239B

Lace Pairing or Folding Headstock

For making Shoe and Boot Laces into pairs. Machine arranged for hand operation and with two adjustable fingers, which can be set to the desired fold.

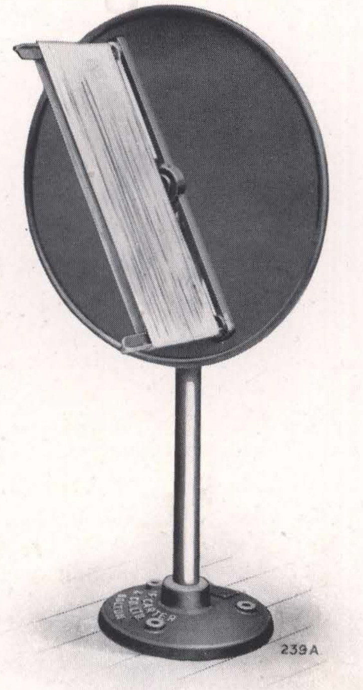


Illustration No. 239A

Lace Cutting Machine

For cutting Boot and Shoe Laces to the desired length. Worked by hand operation and arranged with two adjustable arms, which can be set for any desired length.

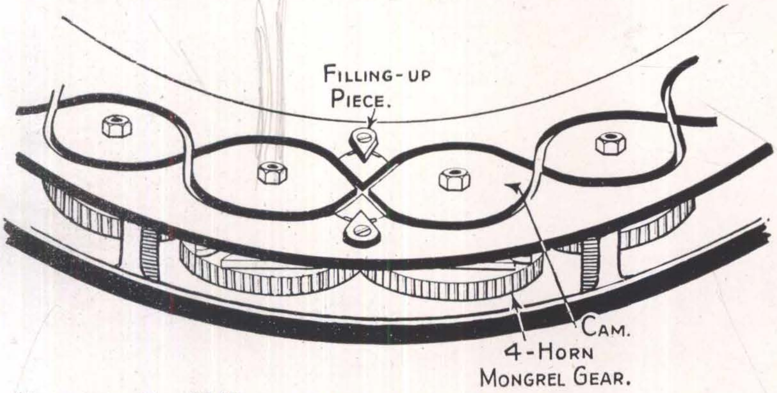


Illustration No. 234D **ROUND BRAIDING**

Lay-outs

Illustration No. 234E shows the arrangement for Flat Braiding, and Illustration No. 234D shows the arrangement for Round or Tubular Braiding on a Flat Braider, which is so constructed that it can be changed to a Round or Tubular Braider, with one less carrier: a 33-carrier Flat Braider forming a 32-carrier Round Braider, and so on.

This attachment, if required, must be specified when ordering, as it adds slightly to the cost of an ordinary Flat Braider.

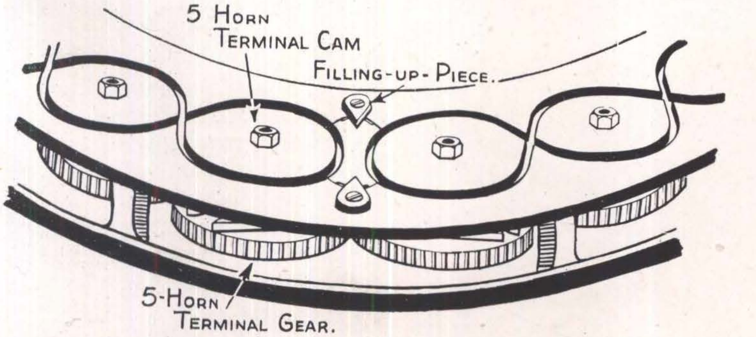


Illustration No. 234E **FLAT BRAIDING**

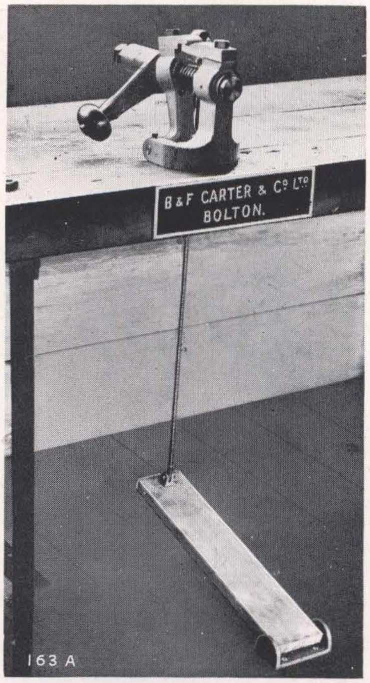


Illustration No. 163A

Metal Tagging Machine

For fixing tags on to the end of Braids, etc.

Output :—Approximately 28 gross average tagged braids, both ends, single lengths, 8 hours per day.

Gimps and Cords

For Piping Cushions, Dressing Gowns, Pyjama Girdles, Tassels, etc.

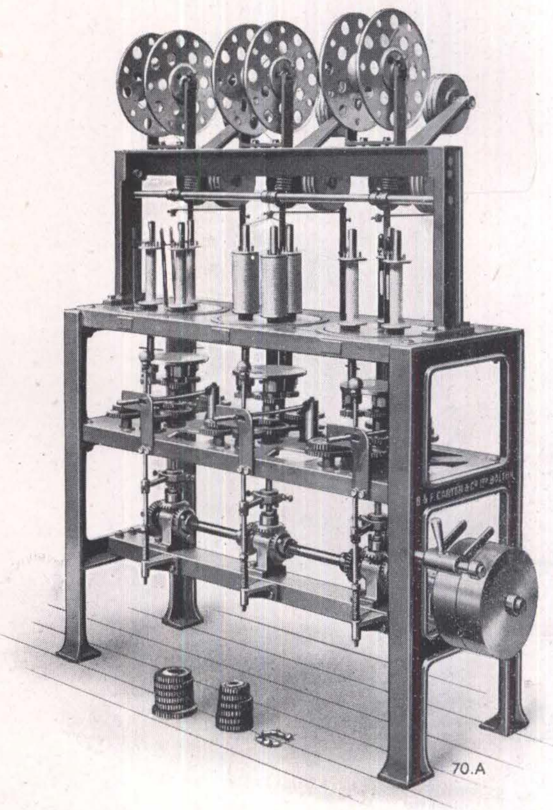
for DETAILS SEE
Page 104

Illustration No. 70A

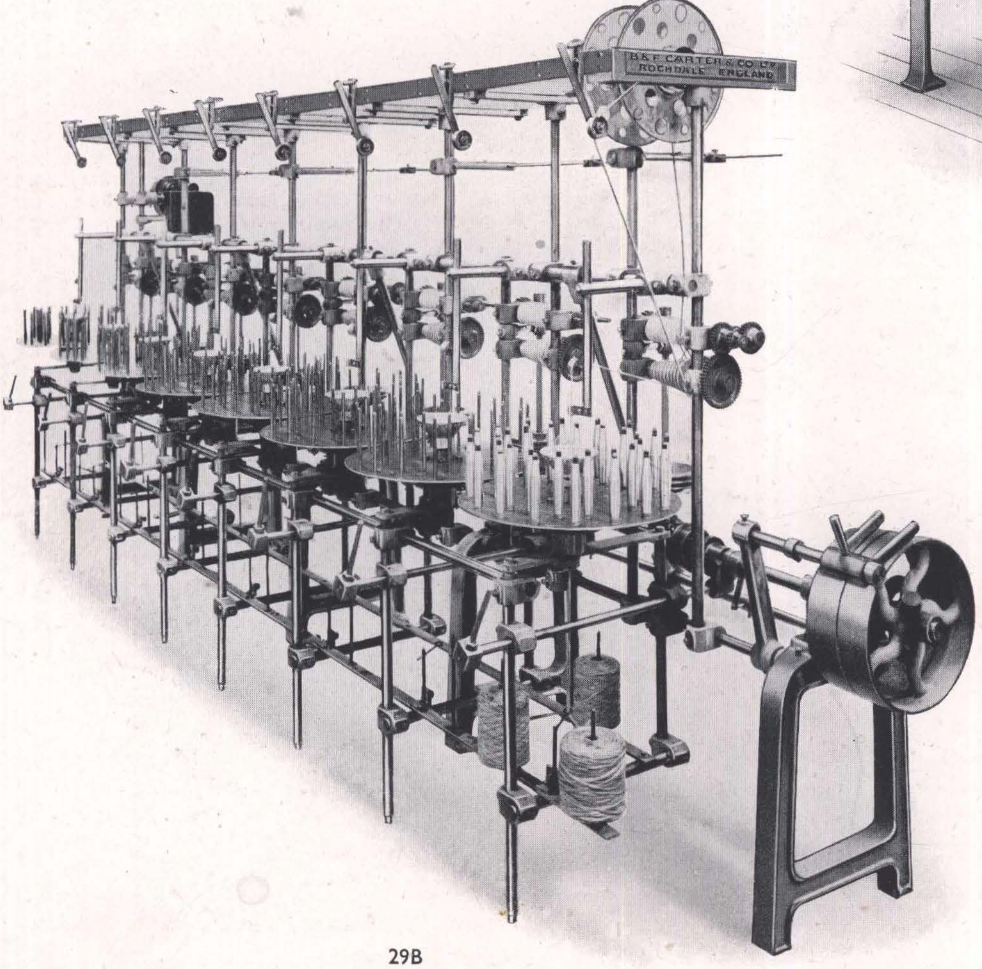
Universal Spindle Banding and Cord Laying Machine

For the maunfacture of Cords, Fishing Lines, etc.

1. Production 250 twists per minute.
2. Size of Double-flanged Supply Bobbins, 6-in. traverse × 3-in. diameter.
3. Machines supplied for making 2, 3 and 4-ply cords of any fibrous material.
4. Each head works independently, and is arranged with stop motion when an end breaks or yarn runs out from any bobbin.
5. The twists or torsion from any cord or cords from each bobbin can be regulated by means of changewheels so as to produce a hard or soft cord or banding.
6. Drive by Flat Belt or Electric Motor Drive through Multi Vee Belts.



70.A



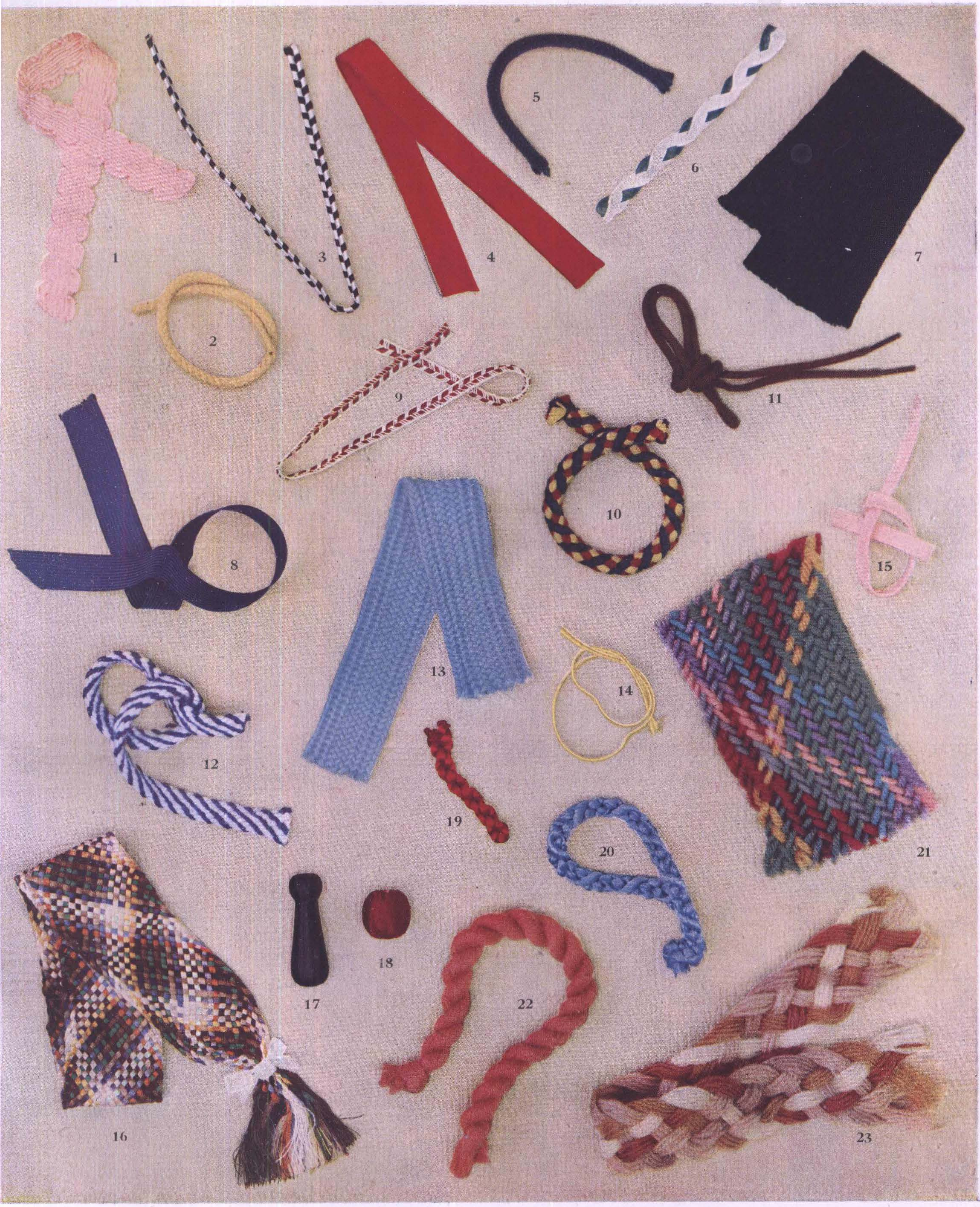
29B

Illustration No. 29B

Gimping Machine

1. Production—will silk cover at a speed from 250 r.p.m., according to the counts or denier of the yarn being used.
2. Arranged with 8-Heads each fitted with revolving table to accommodate 32 bobbins or spools of yarn.
3. Creel fitted underneath to accommodate 3 cheeses of filler yarn.
4. Each head fitted with change gears and stepped cone take-up, for varying the turns per inch of the silk covering.
5. Coiling Drums are situated on the top of the framework, and are arranged with traverse motion for winding the finished material.
6. Drive by Flat Belt or Electric Motor through Multi Vee Belts.

Guards supplied to suit Factory Act



1. Scalloped Girdle.
2. Picture or Blind Cord.
3. Two-coloured Soutache Braid.
4. Flat Tape.
5. Square Whistle Cord.
6. Plaited Thonging.
7. Worsted Military Braid.
8. Flat Silk Elastic.
9. Sandal Braid.
10. Bugle Cord.
11. Shoe Lace.
12. Bathing Costume Strap.
13. Gym Slip Girdle.
14. Self-coloured Soutache Braid.
15. Corset Lace.
16. Neck Tie.
17. Umbrella Tassel.
18. Umbrella Tassel.
19. Twisted Gimp.
20. Quilted Gimp.
21. Scarf.
22. Dressing Gown Girdle.
23. Mending Wool.

for DETAILS SEE
Page 101

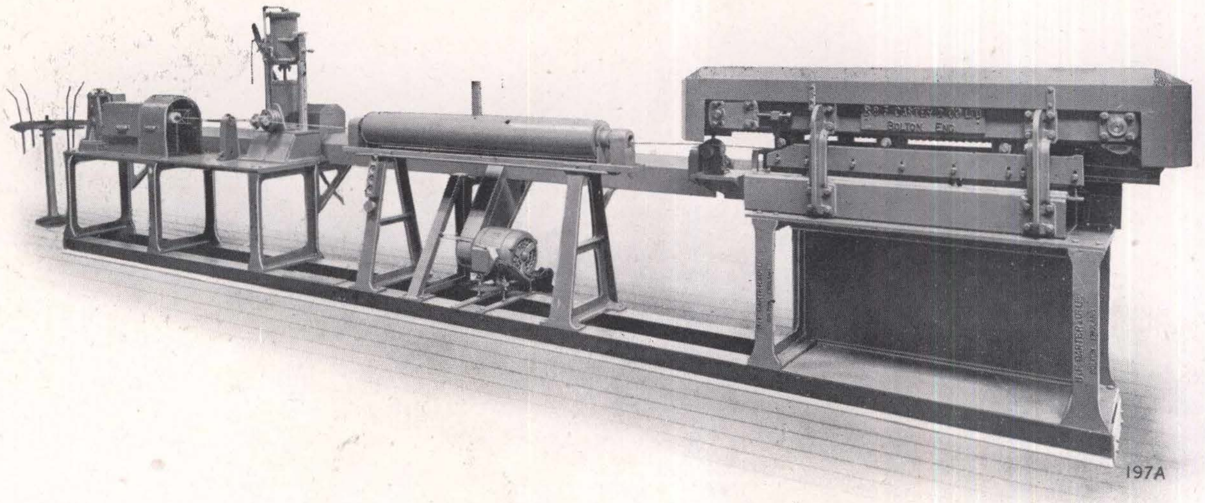


Illustration No. 197A

Continuous Machine for the complete manufacture of Arc Welding Electrodes for continuous Welding

1. Production—Yarn Wrapping, 1,800-ft. per hour.
   Wire Wrapping, 1,200-ft. per hour.
   Braided Cover, 400-ft. per hour.
2. Capacity—Yarn Wrapping Head accommodates cheeses of yarn, 6-in. traverse × 6-in. diameter.
   Wire Wrapping Head accommodates bobbins of wire, 6-in. traverse × 6-in. diameter.
   Braiding Head accommodates 16 cheeses of yarn, 5-in. traverse × $1\frac{13}{16}$-in. diameter.
   Size of Wire Rod, ·104-in. to ·232-in. diameter.
3. The Machine comprises 6 Units as described below :—
   The Wire is brought from the coil or reel and is dealt with in the following manner :—

1st Operation. Wire Nicking Unit, Illustration No. 196B.

2nd Operation. Wire Straightening Unit, with hardened steel adjustable pressure pads, Illustration No. 196B.

3rd Operation. Wrapping Head with yarn compensating device as Illustration No. 196B, which limits breakages and lays the yarn at an even tension on the wire. Speed of the yarn head, 1,500 r.p.m., alternatively can be fitted with Wire Head the speed of which is 1,000 r.p.m., or alternatively the Braiding Head, Illustration No. 68A, which gives 480 stitches per minute. The Wrapping Heads are provided with a magazine for holding spare cheeses or bobbins of yarn or wire, as Illustration No. 197B. Electric Stop Motion (Illustration No. 197B), is arranged in front of each Wrapping Head, comes into action in the event of any distortion in the welding wire, or breakages of the Wrapping material. The Braiding Head is fitted with Stop Motion which comes into operation when a yarn breaks or a bobbin runs empty.

4th Operation. Compressed Air Flux Extruder, Illustration No. 197B. The Flux Capacity 2/3 quart (·75 litre). The Extruder is arranged with Air Cylinder and Piston fitted above the Flux Container. This holds the Flux under compression. In the base of the Flux Container a feed screw and agitator is fitted which forces the Flux into the extruder dies. These dies have been carefully designed and are easily removable for cleaning.

5th Operation. Electric Drying Unit. This is electrically controlled and fitted to accelerate the setting of the Flux, Illustration 197A.

6th Operation. Combined Haul-off Gear and Cutting-off Unit, Illustration 153B. This unit is driven through reduction gear and is arranged with wire supporting mechanism fitted at the inlet end. The Cutting Units can be so arranged to cut off in lengths either 18-in. or 36-in., and are adjustable for wear.

The whole of the above Units are mounted on box beds or cast-iron supports, and are driven from a main driving shaft, being driven by Multi Vee Belts and Electric Motor, Illustration No. 197A.

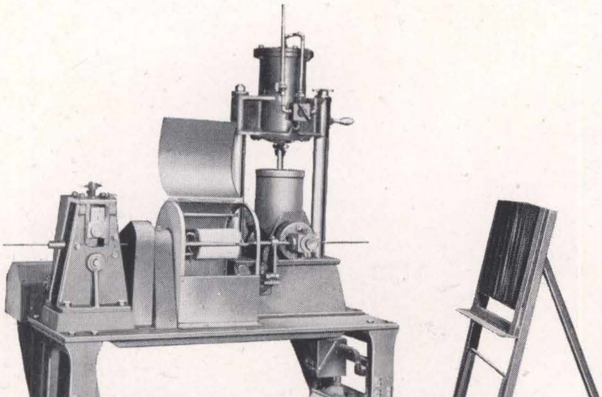


Illustration No. 210B

Continuous Machine for the manufacture of Cut Rod Wrapped Arc Welding Electrodes

1. Production approximately 14-in.-18-in. Electrodes per minute.

   The Rods, say 14-in. and 18-in. long are fed into the machine by hand, and it is capable of dealing with wire rod from ·081-in. to ·312-in. diameter, and can be wrapped with either cotton, asbestos or asbestos metallic yarn. The wrapping yarn being severed by scissors or any other suitable instrument as it leaves the extruding unit.

3. The Machine comprises the following Units :—

Unit No. 1. Wire Feeding Mechanism.

Unit No. 2. Yarn Wrapping Head. Size of Package of Yarn, 6-in. traverse × 6-in. diameter. Speed, 1,000 r.p.m. This is similar in design to that shown on Illustration No. 196B.

Unit No. 3. Compressed Air Flux Extruder, Illustration No. 197B. The Flux Capacity, 2/3 quart (·75 litre). The Extruder is arranged with Air Cylinder and Piston fitted above the Flux Container. This holds the Flux under compression. In the base of the Flux Container a feed screw and agitator is fitted which forces the Flux into the extruder dies. These dies have been carefully designed and are easily removable for cleaning.

The Units as mentioned above are built up on all metal Bench, and driven from the main driving shaft, driven through Multi Vee Belts, Centrifugal Clutch and Electric Motor

or DETAILS SEE

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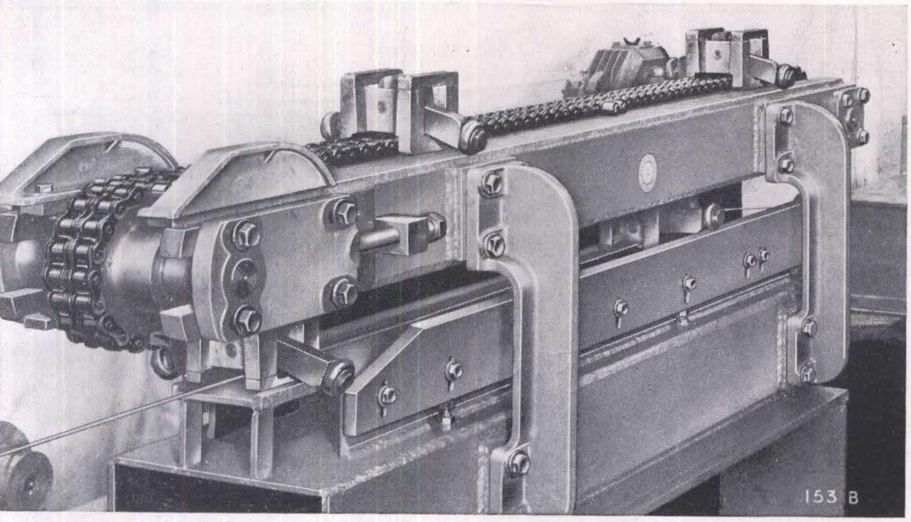
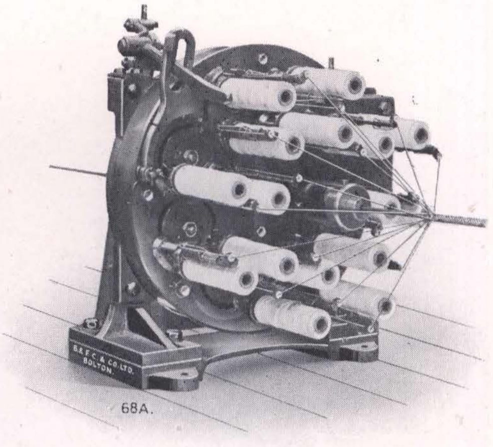


153 B



68A.

Illustration No. 165B

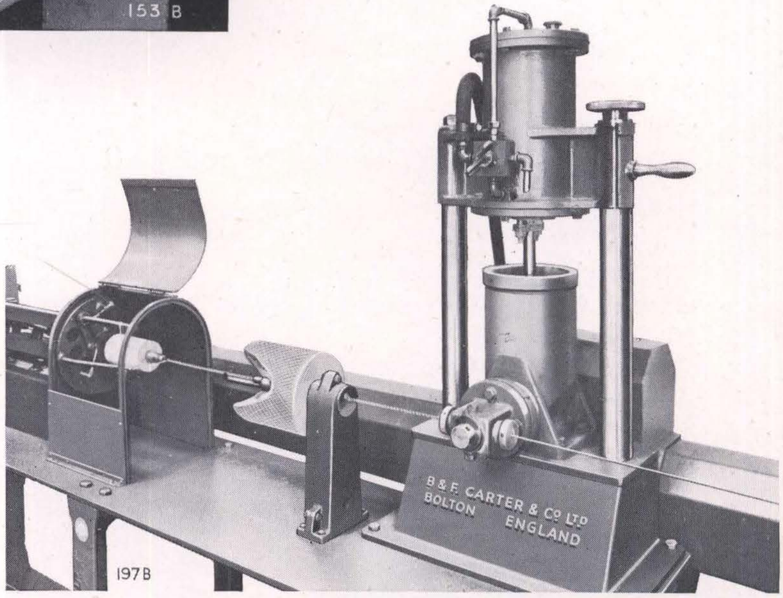
Haul-off Motion

For Long Length Coil Wound Welding Electrodes

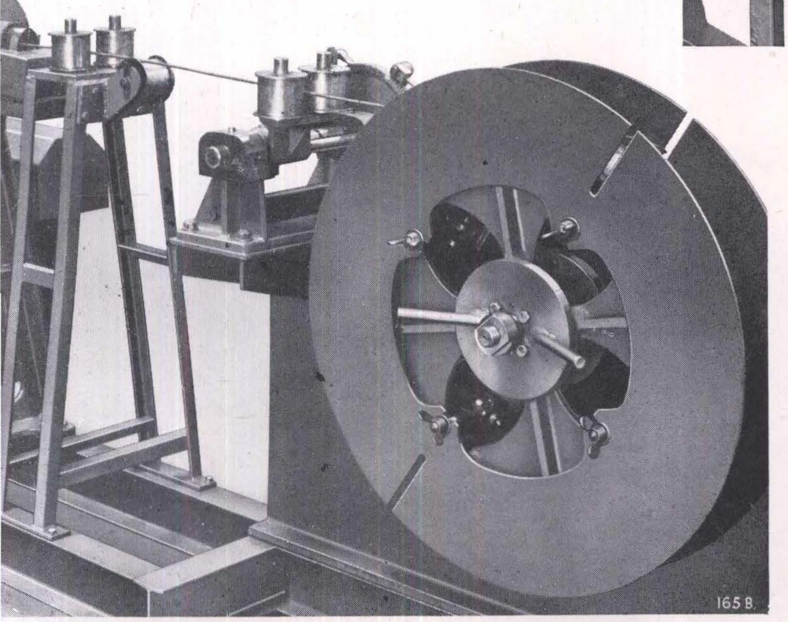
This unit can replace that shown on illustration No. 153B if it desired to make Electrodes for continuous welding.

The Drum is 6-in. between flanges, 2-ft. 8-in. flange diameter, and 2-ft. 0-in. barrel diameter.

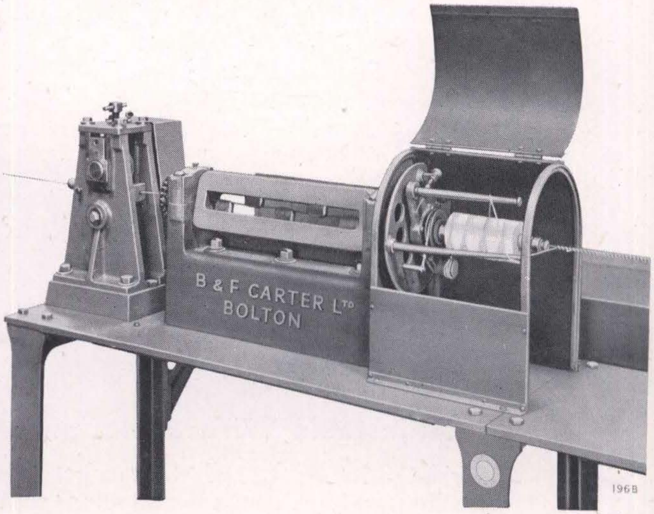
When full the barrel collapses, the outer flange removed and the finished coil can be easily removed.



197B



165 B.



196B

for DETAILS SEE
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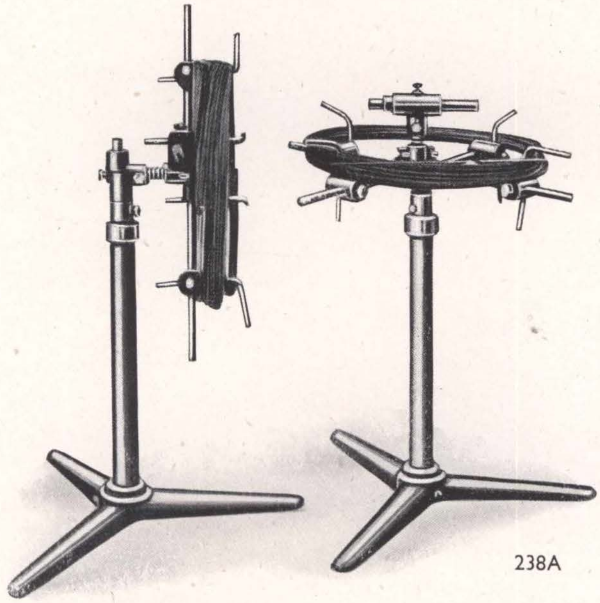


238A

Illustration No. 238A

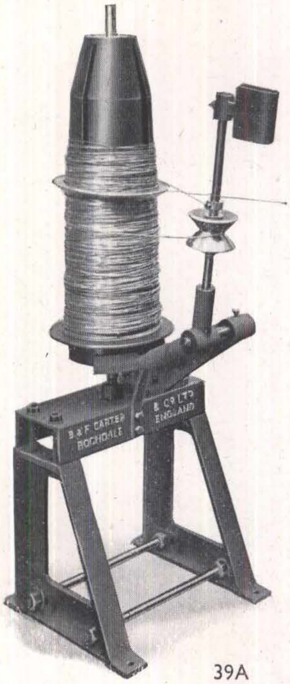
Adjustable Wire Swifts and Reels

Designed to handle coils of wire in a quick and proper manner when running Automatic Wire Machines.

Medium Duty Swifts :—

Model AWS 1—Maximum Capacity, 112-lbs. Maximum Coil Diameter, 30-in. Minimum Coil Diameter, 8-in.

Model AWS 2—Maximum Capacity, 224-lbs. Maximum Coil Diameter, 36-in. Minimum Coil Diameter, 10-in.

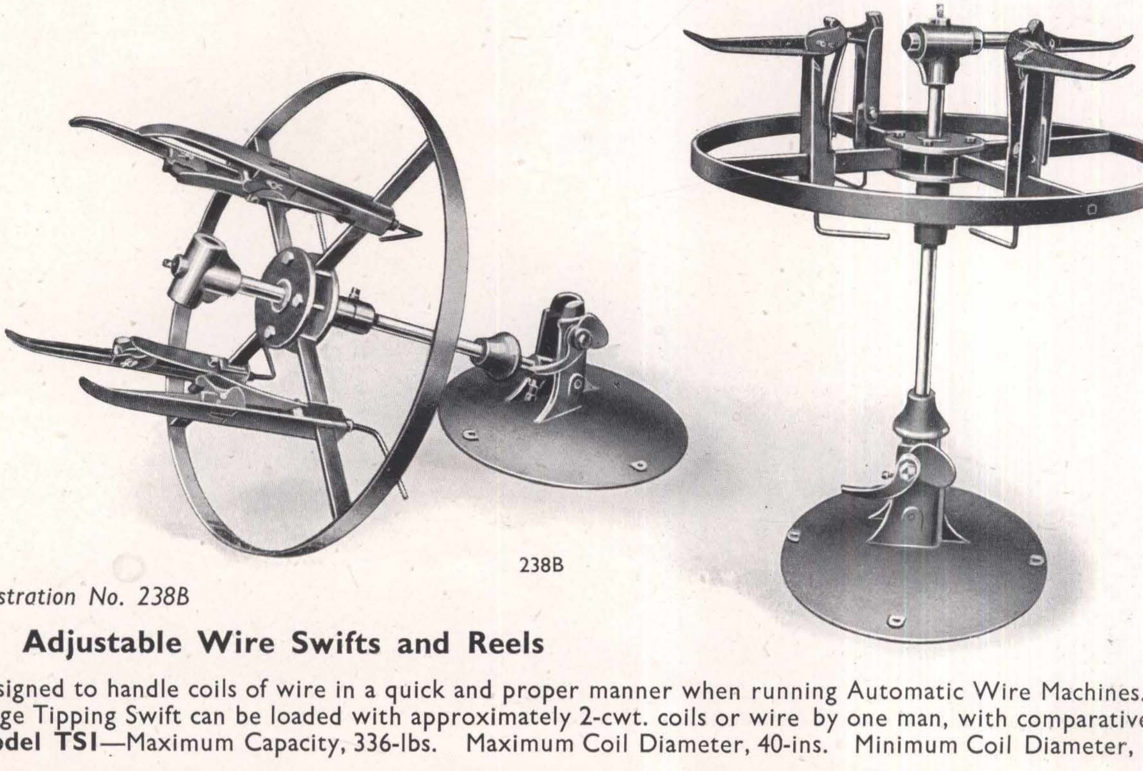


39A

Illustration No. 39A

All-metal Swift for Hard Wire

Self-contained and supplied in either separate or multiple heads.
Automatic Wire Tension and Brake Motion to avoid over-running.
600-ft. of wire per minute can be paid out by these swifts.



238B

Illustration No. 238B

Adjustable Wire Swifts and Reels

Designed to handle coils of wire in a quick and proper manner when running Automatic Wire Machines.
Large Tipping Swift can be loaded with approximately 2-cwt. coils or wire by one man, with comparative ease.
Model TS1—Maximum Capacity, 336-lbs. Maximum Coil Diameter, 40-ins. Minimum Coil Diameter, 10-ins.

or DETAILS SEE

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Bobbin Creels

For Fine Wires, Silk and Cotton Yarns

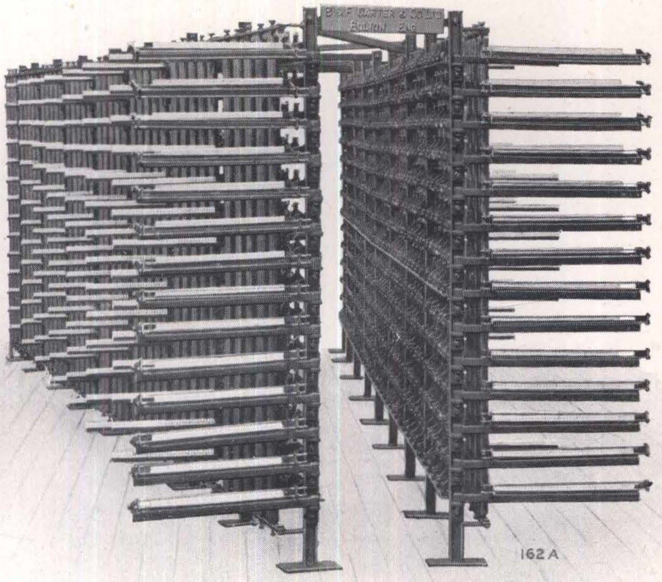


Illustration No 162A

Creel

For Holding 1,064 Bobbins of Yarn or Fine Wire

Special Features :—

1. Individual Control of tension.
2. Even and smooth tension to each strand.
3. Electrical Stop Motion operating when a Strand breaks or a Bobbin runs out.

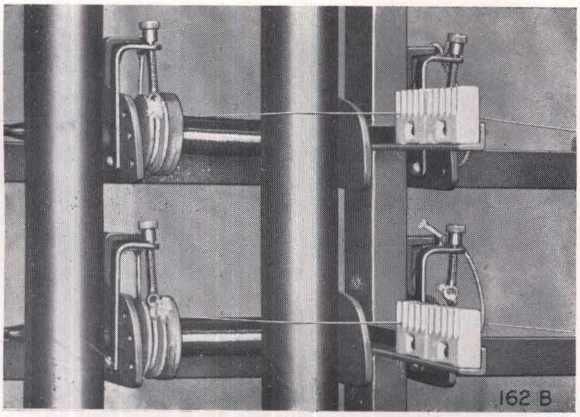


Illustration No. 162B

Close-up of Creel, showing Tension Control, Roller and Porcelain Guides.

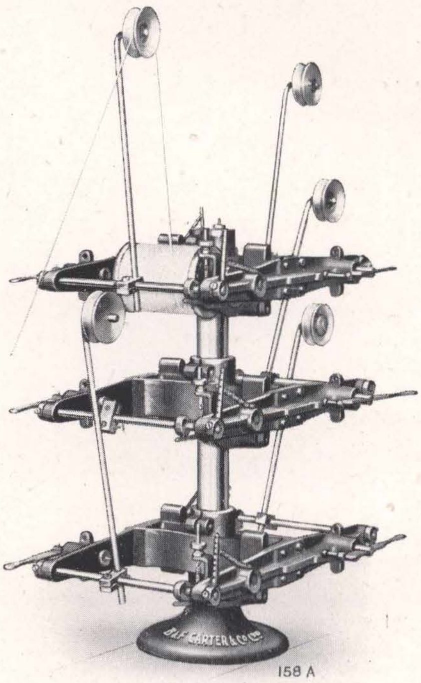


Illustration No. 158A

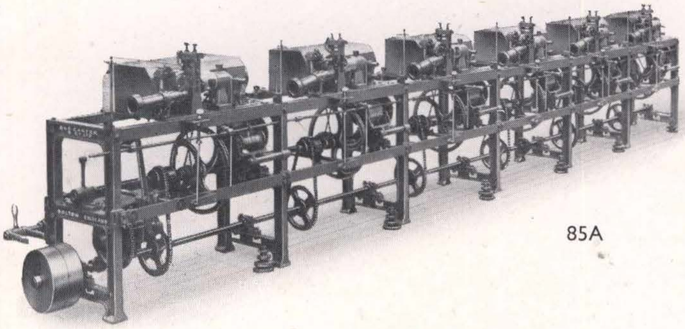
Pillar Type Sensitive Adjustable Tension Creel

Unwinding at High Speeds, Fine Wires, Silks and Yarns at 800/900-feet per minute.

Automatic Tension and Brake Motion to avoid over running can be built to suit any number of bobbins.

Electrically operated Creels to suit Wire Bunching Machines, see pages 31 and 32.

for DETAILS SEE
Page 103



85A

Illustration No. 85A

Horse Hair Yarn Making Machine

With Cotton Wrapping Head

1. Production—Approximately, 1,875 yards per hour, on six heads.
2. Cotton Flyer Speed—3,000 revolutions per minute.
3. The Method on which this Machine works is as follows :— Specially designed picker takes from 2-in. diameter pack of Horse Hair either two thick or three thin Hairs, these are then placed with an overlap behind the preceding hairs. The next process takes them through the Cotton Wrapping Head which is provided with a Compensating Device designed for controlling the tension of the cotton as it is wrapping the Horse Hair. It is then taken through the Calender Haul-off Motion on to the Take-up Bobbins, which are 5-in. between flanges and 3-in. diameter.
4. The Machine arranged with a Traverse Motion to evenly wind the yarn on the Take-up Bobbin.
5. The Machine driven by Flat Belt or Electric Motor Drive through Multi Vee Belts.
6. This Machine can be supplied with any number of Heads to suit your requirements.

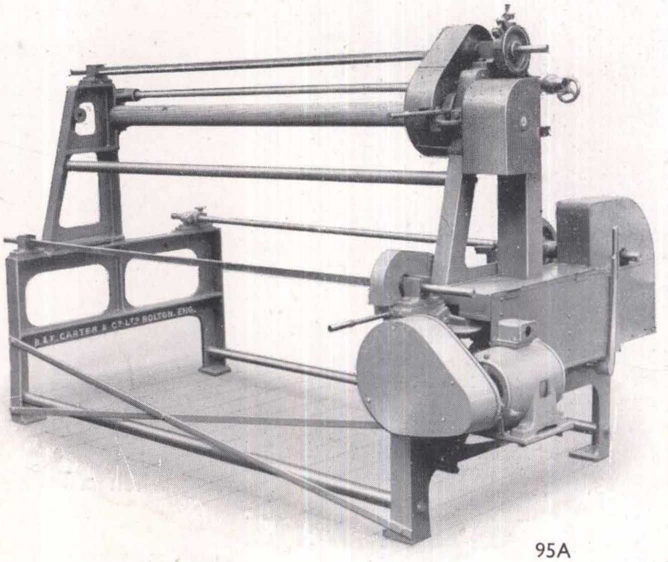
Illustration No. 95A

Vulcanising Drum Wrapping Machine

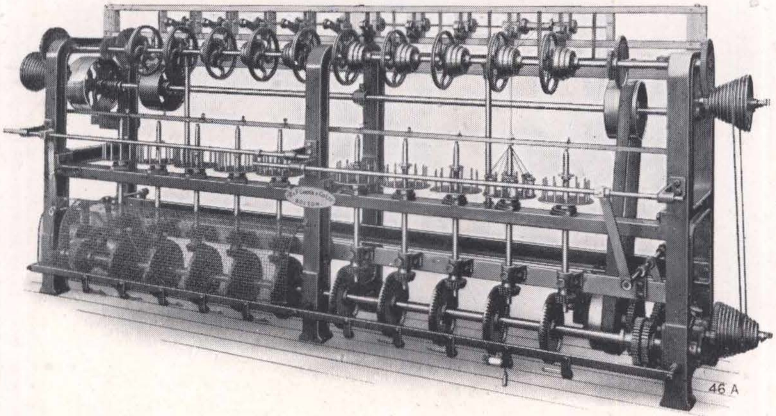
For Cloth Wrapping Rubber Sheeting

Special Features :—

1. Production—66-ft. per minute.
2. Capacity—Sheets up to 60-in. wide on a 44½-in. diameter Vulcanising Drum.
3. High Tensile Spindle for carrying Rubber Sheeting to suit your existing Drums. This spindle is controlled by a specially designed Friction Clutch.
4. High Tensile Steel Spindle for supporting the wrapping cloth. This is fitted with band Friction Brake to give the required tensioning to the Cloth when wrapping. Also it is fitted with a clutch to drive this spindle when unwrapping after vulcanising.
5. In the wrapping process the cloth passes over a hard wood rail to keep the cloth free from creases and under great tension.
6. The Machine is fitted with Water Spray controlled by valve for damping the cloth.



95A



46 A

Illustration No. 46A

Wire Twisting Machine

For the Manufacture of Fine Twisted Flexible Wires, as used in the Paper Making Industry, Picture Cords, etc.

1. Production per hour on 10 Heads—approximately, 190 yards at 44 turns per inch of 6 strand 36's gauge wire.
2. Each head is fitted with revolving table to carry 12 bobbins, 1½-in. traverse × 1½-in. diameter, and 6 bobbins, 3⅜-in. traverse × 2-in. diameter.
3. The tables are geared so that they can run in a right or left hand direction.
4. The vertical spindles which carry the revolving tables are bored so that a centre wire or cotton core can be incorporated in the twisted strand.
5. Automatic Take-off and Traverse Motion are fitted above the Machine for Take-off Bobbins of 6-in. diameter × 1½-in. traverse between flanges.
6. The Machine arranged with 10 heads, but is geared so that each group of 5 heads can be worked as an independent unit.
7. The number of twists per inch can be varied by grooved stepped cone pulleys.
8. Drive by flat belt and suitable strap shipping gear to start and stop the machine, is provided.

r DETAILS SEE
Pages 103 and 104

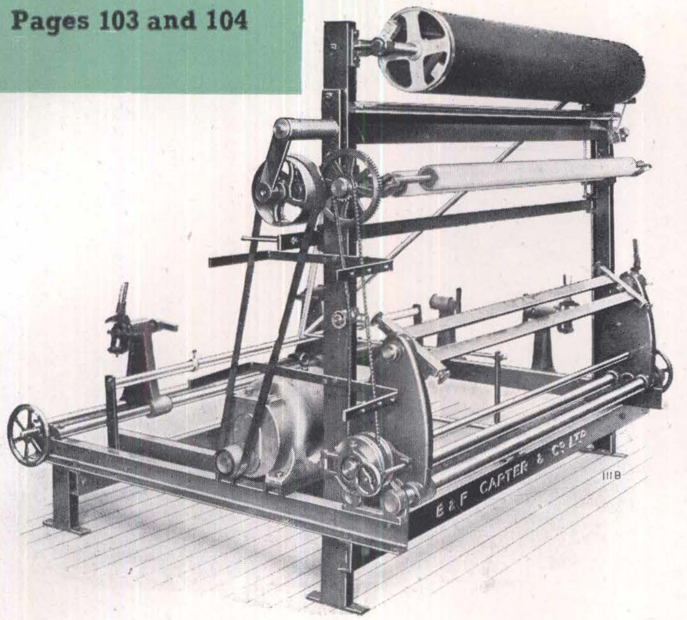

B & F CARTER & CO LTD
111B

Illustration No. 111B

Cloth Unrolling, Perching, Measuring, Re-rolling Machine

Production, approximately 60-ft. per minute.
Suitable for dealing with cloth from 12-in. to 68-in. full open width in the following manner :—
Start with cloth folded 34-in. wide and re-roll folded, 34-in. wide.
Start with cloth folded 34-in. wide and re-roll single, 68-in. wide.
Start with cloth single, 68-in. wide and re-roll single, 68-in. wide.
All parts coming in contact with the cloth are chromium plated and the headstocks are easily adjustable for width by a hand wheel, a locking device is provided so that the batch of cloth remains securely in position during the unrolling operation.
The cloth is drawn through the machine by a pair of rubber faced draw rollers and the re-rolling arrangement is driven from the draw-roller shaft.
The measuring drum, I yard circumference is baize covered, balanced and geared to a 5-figure Albion Counter to record in yards or feet.
Drive by Electric Motor through Multi Vee Belts.

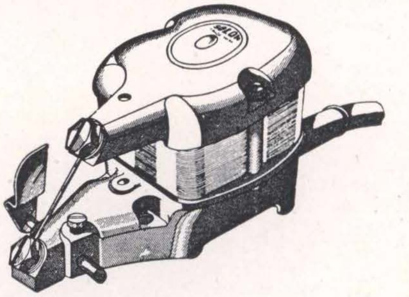
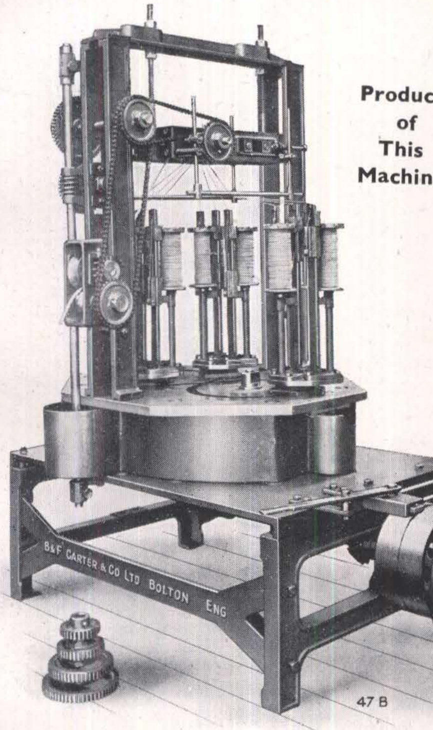


Illustration No. 234F

Electric Insulation Stripper

This unit is particularly suitable for the Radio, Electrical Instrument and Allied Trades. For stripping the terminal ends of single core rubber insulated, tough rubber sheath, or taped and braided cables, etc.
Consisting of a transformer with a secondary coil short-circuited by a resistance wire element, which operates at a dull red heat ; to sever the covering, revolve the insulated conductor against the element. The length of insulation to be removed is controlled by an adjustable guide.
Suitable for 220/250 volts A.C., 50 cycles, and complete with 6-ft. of tough rubber sheathed 3-core flexible.
Two holes are provided for fitting to a bench or table.


B&F CARTER & CO LTD BOLTON ENG
47 B

**Product
of
This
Machine**

Illustration No. 47B

3 and 5-Carriage Plaiting Machine

For the Manufacture of Plaited Strip made from Paper Yarns, as used for Beading Woven Furniture

1. Production—3-carriage Machine with 3 Bobbins per Carriage—28-in. per minute. 5-carriage Machine with 4 Bobbins per Carriage—$45\frac{1}{2}$-in. per minute.
2. Size of Double-flanged Bobbin, 8-in. traverse × 6-in. diameter flanges.
3. Machines can be supplied as follows :—
   5-carriage convertable to 3 with 4 Bobbins per Carriage.
   3-carriage with 4 Bobbins per Carriage.
   3-carriage with 3 Bobbins per Carriage.
4. Haul-off of the 3-roller Calender Type, spring loaded, with former rollers fitted at the back of the machine to give the finished material a convex shape.
5. Drive by Flat Belt or Electric Motor and Multi Vee Belts.

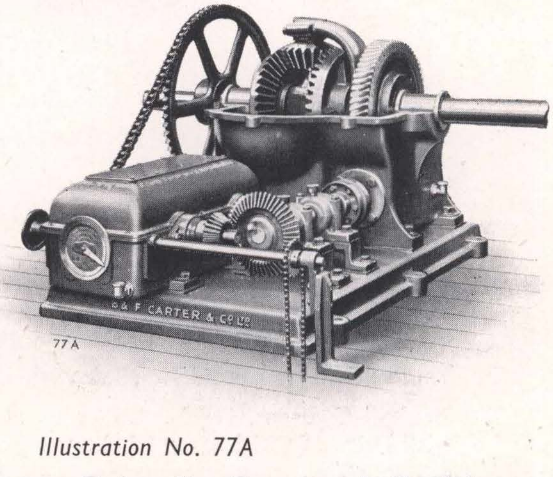

B & F CARTER & CO LTD
77 A

Illustration No. 77A

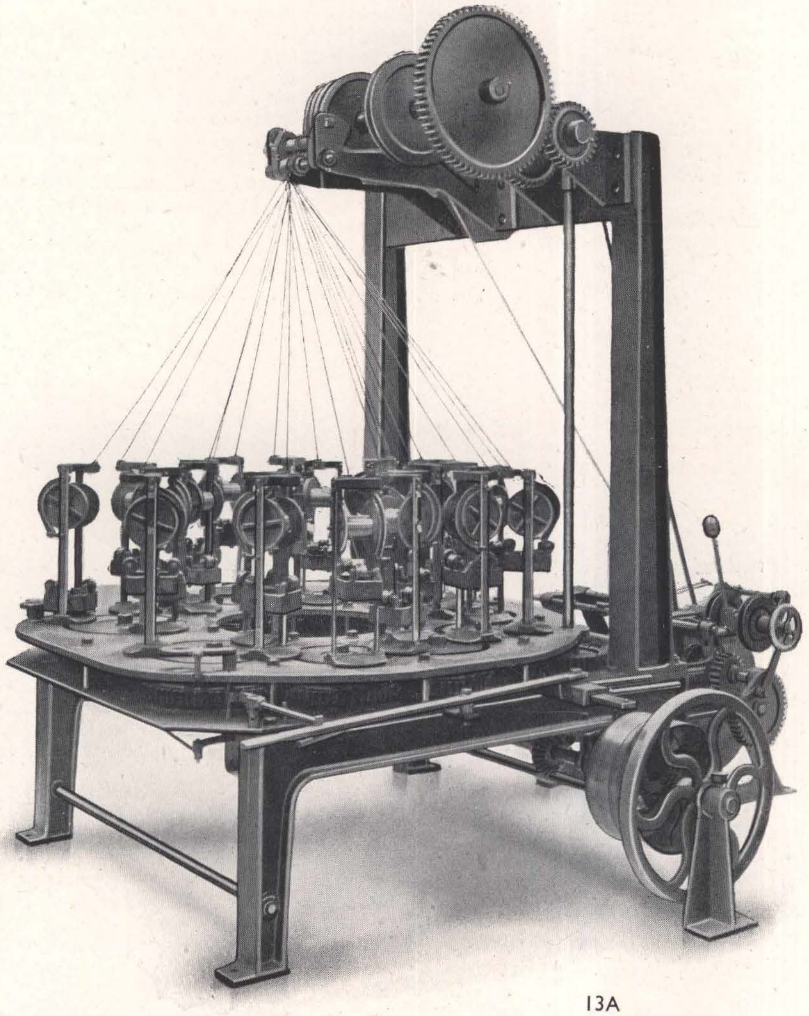
Epicyclic Gear and Positive Infinitely Variable Speed Gear Unit

By coupling this Unit to the back shaft of Wire Stranding Machines to drive the pre-twist formers and the Haul-off Capstan, a fine degree of accuracy can be obtained.

Wire Braiding Machines

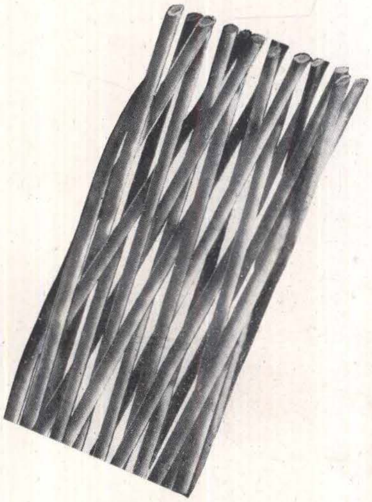
To make straight side Giant Pneumatic Motor Car Tyre Bead Reinforcements, etc.

for DETAILS SEE
Page 90



13A

Illustration No. 13A



Actual Photograph of Flat Steel Wire Braid Produced on this Machine

21-Carrier Wire Braiding Machine

For Flat High Tensile Steel Wire Braid

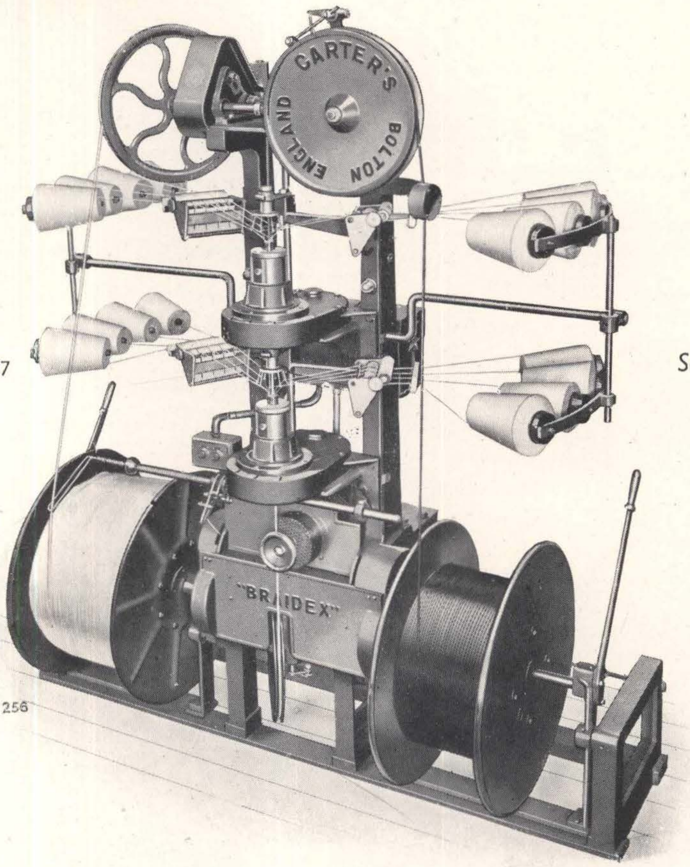
1. Production—17-carrier Machine with ·025-ins. diameter, 105-tons tensile wire—approximately 58-in. per minute.
2. Capacity—This machine is fitted with our "Triton" High Capacity Carriers as described and illustrated on page 13, Illustration No. 164, but carrying a bobbin $6\frac{1}{4}$-in. diameter × 3-in. between flanges.
3. These machines can be supplied with 13, 15, 17, 19 and 21 Carriers.
4. Haul-off Capstans, $11\frac{3}{8}$-in. diameter arranged with four grooves in each. The front grooves are covered with a woven anti-friction banding to prevent slipping of the finished material as it is being hauled from the Braiding Die.
5. To ensure that the braided wire does not slip or hesitate, the wire is intercrossed between the two specially designed grooved Haul-offs.
6. Automatic Stop Motion when wire breaks or bobbin runs out.
7. Drive by Flat Belt or through Electric Motor and Multi Vee Belts.

Approved by the Trade

For Vulcanized India Rubber, Aerial, Telephone Flexible and other Cables

PATENT Nos.

British : 523781, 537574
United States : 2250008, 2268277
Canadian : 401420, 407186
Italian : 379387



See Leaflet No. 19 for Further Details

The Advantages of this machine are

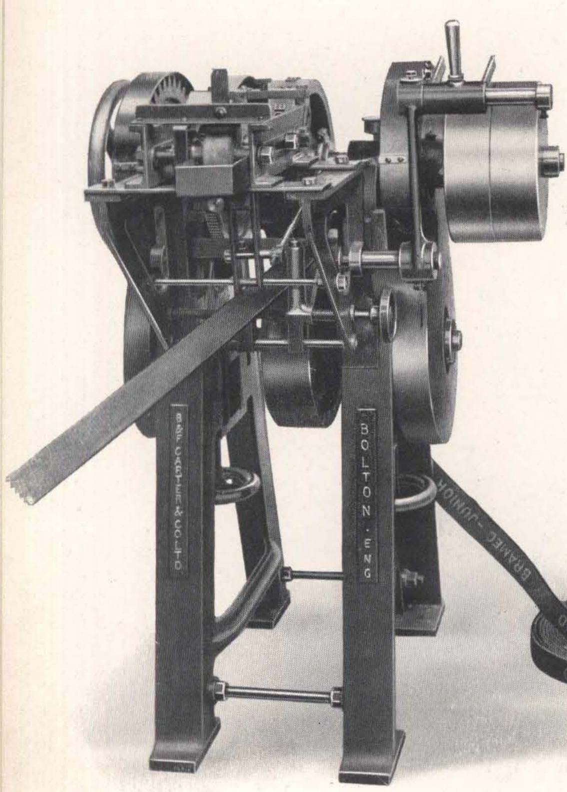
Production 900|1200 feet per hour

1. Yarn Capacity—16 conical Cheeses of approximately $1\frac{1}{4}$-lb. weight
2. Will run for 17 hours on one set-up
3. Pay-out and Take-up Drum 24-in. diameter × 12-in. between flanges
4. Small Floor Space 5-ft. 5-in. × 2-ft. 9-in. × 6-ft. $2\frac{1}{2}$-in. high. Machines can be installed back to back
5. Machine is silent in operation
6. All Electrically operated and controlled

BRAIDEX

ON - BALLOONING · HIGH DUTY · TWO - WAY
ORE COVERING MACHINE

for DETAILS SEE
Page 97



40A

Illustration No. 40A

Marking Machine

For the Continuous Printing of Woven or Bonded Brake Lining, Belting, Rubber or Metal Strip, Tubes, etc.

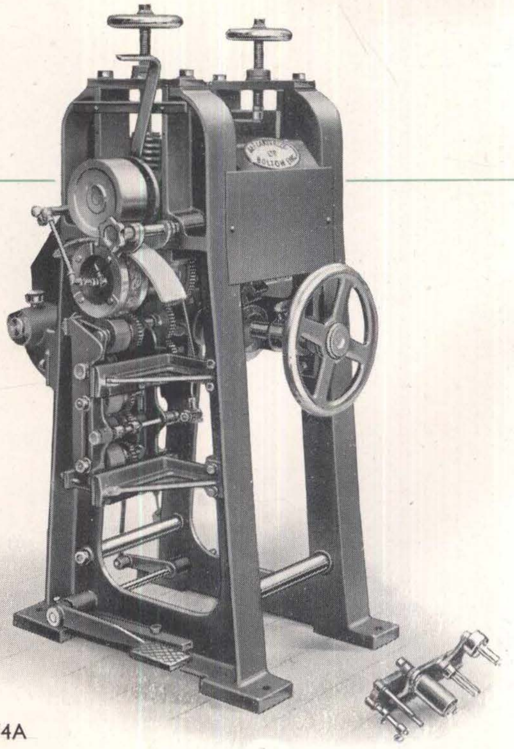
1. Production 90-ft. per minute
2. Capacity 6-in. wide × $\frac{1}{2}$-in. thick
3. Height of Marking Figures or Letters $1\frac{1}{4}$-in. or two rows of $\frac{5}{8}$-in.
4. Marking Roller will carry 36-in. of engraving
5. Printing Type can be removed and replaced in a few minutes
6. Can be arranged with either Transfer Foil Marking Attachment with gas-heated or electrically-heated Marking Roller
   OR
   Attachment for printing with gold or coloured inks
7. Drive by Flat Belt, or Electric Motor through Multi Vee-belts

Illustration No. 74A

Marking Machine

For the Printing of Woven and Bonded Brake Lining Segments

1. Production 40-ft. per minute
2. Capacity 4-in. wide × $\frac{3}{8}$-in. thick
3. Height of Marking Figures or Letters $1\frac{1}{4}$-in. or two rows of $\frac{5}{8}$-in.
4. Marking Rollers will carry 18-in. of engraving
5. Printing Type can be removed and replaced in a few minutes
6. Can be arranged with either Transfer Foil Marking Attachment with Gas-heated Marking Roller
   OR
   Attachment for printing with gold or coloured inks



74A

Special Note

We are indebted to our friends for the loan of Photographs, Blocks, etc., illustrating products, in the manufacture of which, our machinery plays an important part.

▾ ▾

1. The details given in this Catalogue are approximate only.
2. Wherever possible the horse-power given is for Direct Motor Drive, but in certain cases, such as small machines, we presume clients will use existing lineshafting.
3. Detailed Specifications and Prices of any Machinery on request. Please forward sample of product with indication of output required over given period.
4. There are approximately 136 Machines illustrated in this catalogue, but as our range is being added to continuously we shall be pleased if clients will let us have details of their requirements to enable us to prepare specifications and submit latest illustrations.

▾ ▾

Other "Carter" Publications

Leaflet No. 10.	Yarn and Wire Spindles or Carriers for **All** Braiding and Plaiting Machines.
Leaflet No. 11.	Small Bench Braiding Machines, etc.
Leaflet No. 14.	Friction Clutches of Various Types.
Leaflet No. 18.	Ratchet and Revolution Counters, Speed Indicators, etc.
Leaflet No. 19.	" BRAIDEX " Core Covering Machine.

Any of the above sent on request.

BENCH BRAIDING MACHINES

No. of Carriers	Dia. of Horngear	Size of Cheese		Dia. of Haul-off Capstan	Revs. of Carriers Round Track per minute	Production in Stitches per minute	H.P.	Weights				Overall Dimensions	Code Words	Illustrated	
								Gross		Nett				Page No.	Photo. No.
		Dia.	Trav.					Cwt.	Qr.	Cwt.	Qr.	ft. in. × ft. in. × ft. in.			
16	3·2″	1½″	× 4½″	14″	75	600	Dependent on number of machines on mounting mechanism.	2	0	1	1	1 9 × 1 10½ × 3 3 high	CORLENTENT		
24	3·2″	1½″	× 4½″	14″	50			3	2	1	3	2 1 × 1 11 × 3 3 ,,	CORDOVE		
32	3·2″	1½″	× 4½″	14″	37½			3	3	2	0	2 4 × 2 1 × 2 10½ ,,	CALCANT		
40	3·2″	1½″	× 4½″	14″	30			5	0	2	3	2 8 × 2 6 × 2 10½ ,,	CORDOLL		
48	3·2″	1½″	× 4½″	14″	25			6	1	3	1	2 11 × 2 8 × 2 10½ ,,	CORLASTING		
52	3·2″	1½″	× 3½″	Calender	23			8	0	6	0	3 5 × 3 3 × 5 0 ,,	LACEBRAID	73	33A
13	3·2″	1½″	× 4½″	Calender	23			1	1	0	3	1 7 × 1 5 × 2 7 ,,	CORETH		
15	3·2″	1½″	× 4½″	Calender	23			1	2	1	0	1 9 × 1 5½ × 2 7 ,,	CORTAPE		
17	3·2″	1½″	× 4½″	Calender	23			2	0	1	1	1 9½ × 1 6 × 2 7 ,,	CORFLAT	72	4A
21	3·2″	1½″	× 4½″	Calender	23			2	2	1	1	1 10 × 1 6½ × 2 7 ,,	CORONE		
25	3·2″	1½″	× 4½″	Calender	23			3	0	1	3	1 11 × 1 7 × 2 7 ,,	CORFOW		
29	3 2″	1½″	× 4½″	Calender	23			3	2	2	0	2 2 × 1 9 × 2 7 ,,	CORNINE		
37	3·2″	1½″	× 4½″	Calender	23			4	0	2	1	2 8 × 2 1½ × 2 10 ,,	CORRIC		
16	4″	$1\frac{13}{16}$″	× 5″	14″	68	544		2	1	1	2	1 10½ × 1 10½ × 3 3 ,,	CORLENT	19 71	133B 26A
24	4″	$1\frac{13}{16}$″	× 5″	14″	45⅓			3	2	2	0	2 4½ × 2 1½ × 3 3 ,,	CORWELE	20	143B
32	4″	$1\frac{13}{16}$″	× 5″	14″	34			4	0	2	1	2 5 × 2 8 × 2 10 ,,	CALCOROD		
16	4″	$1\frac{13}{16}$″	× 5″	20″	68			2	2	1	3	1 11½ × 2 4½ × 3 9 ,,	CABBIX		
24	4″	$1\frac{13}{16}$″	× 5″	20″	40	480		3	3	2	1	2 8 × 2 6 × 3 9 ,,	CABFOUR	19	22B
32	4″	$1\frac{13}{16}$″	× 5″	20″	30			4	1	2	2	2 10 × 2 10 × 3 4 ,,	CABTWO		
24 Dble. Tier	4″	$1\frac{13}{16}$	× 5″	20″	40		1	5	2	4	2	4 4 × 2 6 × 7 0 ,,	DOBEN	20	149B

Speeds given are based on " Speedway " Carriers with cotton yarn.
Shipping measurements, 75 cubic feet per ton.

SQUARE CORD PLAITING MACHINE

No. of Carriers	Stitches per minute	Horngear Speed	Weights				Overall Dimensions	Shipping Measurements	Code Word	Illustrated	
			Gross		Nett					Page No.	Photo. No.
			Cwt.	Qr.	Cwt.	Qr.					
8	390	195 r.p.m.	2	1	1	2	1′ 9″ × 1′ 7″ × 3′ 3″ high	75 cu. ft. per ton	CORDRON	72	233K
12	585										

"A" TYPE BENCH BRAIDING MACHINES

Dia. of Horngear	Size of Bobbin	Speed of Horngear	Production in Stitches per minute	Code Word	Illustrated
					Page Nos.
2·8″	**"A" type.**—1¼″ dia. × 3¼″ trav. × ⅝″ barrel **Box type.**—$1\frac{5}{16}$″ × 3¼″ × $\frac{13}{16}$″ barrel	180 r.p.m.	360	AFLAT	73 and 74

Nett weight of Mounting Mechanism on page 74 is 8 cwt. Dimensions 14′ 9″ × 1′ 8″ × 2′ 4″.

LACE CUTTING, TAGGING and PAIRING MACHINES

	Weight		Dimensions	Shipping Measurements	Illustrated	
	Nett	Gross			Page No.	Photo. No.
	Lbs.	Lbs.				
Lace Cutting Machine	68	84	12″ dia. base × 3′ 6″ high	28 cu. ft. per ton	74	239A
Lace Tagging Machine	24	40	6″ × 12″ × 8″ high		74	163A
Lace Pairing Machine	4½	10	8½″ × 7″ × 9½″ high		74	239B

MOUNTING MECHANISM FOR 20 BRAIDING MACHINES (16 CARRIER) 4 in. Dia. HORNGEAR

with Combined Driving Gear and Drum or Reel Stands

Overall Length	Overall Height	Overall Width including Drums	Nett Weight	Gross Weight	Shipping Measurements	H.P.	Code Word	Illustrated	
								Page No.	Photo. No.
ft.	ft. in.	ft. in.	tons cwt.	tons cwt.	cu. ft. per ton				
40	2 5½	4 8	2 2	2 9	44	6	BENTEN	21	134A

Mounting Mechanism as illustrated on page 71—Photo. 236A. Code Word : MACBEN

Gross 18 cwts., Nett 16 cwts. Shipping measurements, 20 cu. ft. per ton. Measurements, 25′ 0″ × 2′ 9″ × 2′ 9″ high.

No. of Machines this Mounting Mechanism will hold :—

No. of Carriers per Machine	8–12	16	24	32	16	24	32	40	48	13	15	17	21	25	29	37	8–12
Dia. of Horngear...	4″	4″	4″	4″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	3·2″	4·75″
No. of Machines ..	12	12	10	8	13	11	10	8	8	14	13	13	12	12	11	8	13

MOUNTING MECHANISM FOR ONE BRAIDING MACHINE

Overall Length	Overall Height	Overall Width including Drums	Gross Weight	Nett Weight	Shipping Measurements	Code Word	Illustrated	
							Page No.	Photo. No.
ft. in.	ft. in.	ft. in.	cwt.	cwt.	cu. ft. per ton			
2 6	2 0	3 6	2	1½	80	SINBEN	20	148B

DRUM MOUNTING MECHANISM FOR SPARK TESTER

Overall Dimensions including Spark Tester	Weights		Shipping Measurements	Code Word	Illustrated	
	Gross	Nett			Page No.	Photo. No.
	cwt.	cwt.	cu. ft. per ton			
16-ft. long × 3-ft. wide	15	12	60	SPARSTAN	17	213A

YARN BRAIDING MACHINES

No. of Carriers	Dia. of Horngear	Size of Cheese	Dia. of Haul-off Capstan	Revs. of Carriers Round Track per minute	Production in Stitches per minute	H.P.	Weights		Overall Dimensions	Code Words	Illustrated	
							Gross	Nett			Page No.	Photo. No.
		Dia. Trav.					Cwt. Qr.	Cwt. Qr.	ft. in. ft. in. ft. in.			
16	5½″	2½″ × 5″	3′	43½	348	1	12 0	8 0	3 9 × 3 3 × 8 0 high	CABEN		
24	5½″	2½″ × 5″	3′	29	348	2	15 0	11 0	4 6 × 3 6 × 8 0 ,,	CABBAAD		
16	6⅜″	3″ × 6″	3′	40	320	1½	16 0	12 0	3 9 × 4 6 × 8 0 ,,	CATER		
24	6⅜″	3″ × 6″	3′	26¾	320	2	19 0	16 0	4 10 × 4 0 × 8 0 ,,	CABINGE	14	140B
36	6⅜″	3″ × 6″	3′	17⅔	320	3	26 0	22 0	5 8 × 5 3 × 8 0 ,,	CABNEG		
48	6⅜″	3″ × 6″	3′	13⅓	320	4	34 0	30 0	6 8 × 5 9 × 8 0 ,,	CABCEN		
24	7 61/64″	4″ × 6″ or 7″	5′	20	240	4	56 0	51 0	7 6 × 7 3 × 10 0 ,,	CABRALEE		
36	7 61/64″	4″ × 6″ or 7″	5′	13⅓	240	4	77 0	70 0	8 9 × 7 11 × 10 0 ,,	CABRALENT	14	265
36	7 61/64″	4″ × 6″ or 7″	8′	13⅓	240	5	90 0	83 0	8 9 × 11 3 × 13 4 ,,	CABRALOR		
16	9¼″	4½″ × 7″	3′	24/25	190/200	3	27 0	24 0	8 6 × 2 6 × 4 0 ,,	CABTYP		
48	11 7/16″	5″ × 7″	5′	10	240	5	102 0	94 0	11 10 × 9 10 × 11 11 ,,	CABRIER		
48	11 7/16″	5″ × 7″	6′	10	240	5	104 0	96 0	12 10 × 9 10 × 13 0 ,,	CABRATE		
48	11 7/16″	5½″ × 8″	5′	10	240	5	109 0	100 0	11 10 × 9 10 × 11 11 ,,	CABRABLE		
48	11 7/16″	5½″ × 8″	6′	10	240	5	112 0	103 0	12 10 × 9 10 × 13 0 ,,	CABRIMP		

Shipping Measurements, 50/55 cu. ft. per ton.

SOLID CORD BRAIDING MACHINES

No. of Carriers	Floor Space	Weights		Revs. of Carrier Round Track	H.P.	Code Words	Illustrated	
		Nett	Gross				Page No.	Photo. No.
12	2′ 6″ × 3′ 0″ × 6′ 3″ high	5 cwt. 3 qr.	8 cwt. 3 qr.	25½ per min.	1	CARSOL	69	253A
18	3′ 9″ × 4′ 6″ × 6′ 3″ ,,	6 cwt. 3 qr.	10 cwt. 0 qr.	20 per min.	2	TERSOL		
20	4′ 2″ × 5′ 0″ × 6′ 3″ ,,	7 cwt. 0 qr.	10 cwt. 1 qr.	18 per min.	3	SOLCAR		

8-CARRIER SASH CORD BRAIDING MACHINES

Overall Sizes	Size of Cheeses of Yarn	Stitches per Minute	Weights		Shipping Measurements	Size of Driving Pulley	H.P.	Code Word	Illustrated	
			Nett	Gross					Page No.	Photo. No.
			Cwt. Qrs.	Cwt. Qrs.	cu. ft. per ton	dia. wide				
1′ 10½″ × 1′ 10½″ × 3′ 3″ high	3″ dia. × 6″ traverse	180	2 0	2 3	75	6″ × 2″	⅕	CORSASH	70	225A

VERTICAL BRAIDING MACHINES—For Long Length Rubber Hose, etc.

Single Tier

No. of Carriers	Dia. of Horngear	Size of Cheese	Dia. of Haul-off Capstan	Revs. of Carriers Round Track per minute	Production in Stitches per minute	H.P.	Weights		Overall Dimensions	Code Words	Illustrated	
							Gross	Nett			Page No.	Photo. No.
		Dia. Trav.					Cwt. Qr.	Cwt. Qr.				
24	7·162″	3″ × 6″	1′ 8″	25½	306	1	18 2	16 0	4′ 10″ × 4′ 0″	DORANO		
36	6·525″	3″ × 6″	1′ 8″	17	306	1½	23 0	20 0	5′ 10″ × 4′ 7″	DORENT		
48	6·525″	3″ × 6″	1′ 8″	12¾	306	2	30 0	26 0	6′ 10″ × 7′ 10″	DORIC	53	266
60	6·525″	3″ × 6″	2′ 8″	10⅕	306	3	43 0	36 0	6′ 4″ × 7′ 10″ × 8′ 3″	CONSUMATE		
64	6·000″	3″ × 6″	2′ 8″	9½	306	3	45 0	40 0	6′ 4″ × 8′ 2″ × 8′ 3″	COPFOR	54	254
96	5·000″	2½″ × 6″	3′ 6″	8	384	3	52 0	47 0	7′ 0″ × 8′ 6″ × 9′ 0″	CORHOSE		

Double Tier

No. of Carriers	Dia. of Horngear	Size of Cheese	Dia. of Haul-off Capstan	Revs. of Carriers Round Track per minute	Production in Stitches per minute	H.P.	Gross	Nett	Overall Dimensions	Code Words	Page No.	Photo. No.
24	7·162″	3″ × 6″	1′ 8″	25½	306	1½	35 0	31 0	4′ 10″ × 4′ 0″	COMMAND	53	41B
36	6·525″	3″ × 6″	1′ 8″	17	306	2	39 0	35 0	5′ 10″ × 4′ 7″	COMMENT		
48	6·525″	3″ × 6″	1′ 8″	12¾	306	3	58 0	53 0	6′ 10″ × 7′ 10″	COMPOUND		
60	6·525″	3″ × 6″	1′ 8″	10⅕	306	4	63 0	58 0	6′ 4″ × 7′ 10″	COMMANDER		
64	6·000″	3″ × 6″	1′ 8″	9½	306	4	66 0	60 0	6′ 4″ × 8′ 2″	COMMANDMENTS		

HORIZONTAL YARN BRAIDING MACHINES

No. of Carriers	Size of Bobbins or Cheese	Revs. of Carriers Round Track per minute	Stitches per minute	Floor Space	H.P.	Weights						Code Words	Illustrated	
						Nett			Gross				Page No.	Photo. No.
						Ton.	Cwt.	Qr.	Ton.	Cwt.	Qr.			
24	6″ × 3″	25½	306	6′ 6″ × 3′ 6″ × 3′ 3″	2	0	11	1	0	15	1	ANRORP		
32	6″ × 3″	19⅛		6′ 9″ × 4′ 1″ × 3′ 10″	2	0	13	0	0	18	1	BINUCT		
36	6″ × 3″	17		7′ 0″ × 4′ 7″ × 4′ 3″	3	0	14	0	1	0	0	BIBLEX	52	147B
48	6″ × 3″	12¾		7′ 3″ × 5′ 6″ × 5′ 3″	3	0	16	1	1	4	0	PABLO	51	137B
60	6″ × 3″	10⅕		7′ 6″ × 6′ 5″ × 6′ 2″	4	0	19	0	1	9	0	CUNIB		
64	6″ × 3″	9½		7′ 8″ × 6′ 6″ × 6′ 6″	5	1	1	0	1	11	0	CURLO		
48 3-head in Tandem	6″ × 3″	12¾		29′ 0″ × 7′ 0″ × 5′ 9″	7	4	0	0	5	0	0	TANYA	51	144A

Shipping Measurements, 75 cu. ft. per ton.

WIRE BRAIDING MACHINES

No. of Carriers	Size of Horngear	Size of Haul-off	Revolution of Carriers per min. Round the Track	Production Stitches per minute	Weights				Overall Sizes of Machines	Size of Bobbins	H.P.	Code Words	Shipping Measurements in cu. ft. per ton	Illustrated	
					Nett		Gross							Page No.	Photo. No.
					Cwt.	Qr.	Cwt.	Qr.	ft. in. ft. in. ft. in.	in. in.					
16	4″	14″ or 20″	32½	260	1	3	2	2	1 10½ × 1 10½ × 3 3 high	2¼ × 1¼	¾	WIRSING	69	22	135A
24	4″	14″ or 20″	21⅔	260	2	1	3	3	2 4½ × 2 1½ × 3 3 ,,	2¼ × 1¼	1	WIRTYP	89	22	135A
32	4″	14″ or 20″	16¼	260	2	3	4	2	2 5 × 2 8 × 2 10 ,,	2¼ × 1¼	1	WIRSPED	97		
12	6⅜″ dia.	3 ft. dia.	40	240	23	2	26	0	3 7⅜ × 4 2¾ × 7 7 ,,	3½ × 1¾	1½	IMPTWO	56		
16	6⅜″ dia.	3 ft. dia.	30	240	24	0	27	0	3 11 × 4 4⅝ × 7 7 ,,	3½ × 1¾	2	IMPSIX	45		
24	6⅜″ dia.	3 ft. dia.	20	240	25	0	30	0	4 7⅛ × 4 5⅝ × 7 11 ,,	3½ × 1¾	2	IMPFOR	66	13	200
32	6⅜″ dia.	3 ft. dia.	15	240	25	2	31	0	5 2½ × 5 5⅝ × 7 11 ,,	3½ × 1¾	3	IMPTRE	67		
36	6⅜″ dia.	3 ft. dia.	13⅓	240	26	0	31	2	5 7⅝ × 5 3 × 7 11 ,,	3½ × 1¾	3	IMPISH	98		
48	6⅜″ dia.	3 ft. dia.	10	240	26	2	32	0	6 7⅝ × 5 9 × 7 11 ,,	3½ × 1¾	4	IMPTATE	102		
12	7½″ dia.	3 ft. dia.	32	192	23	2	27	0	4 0¾ × 4 5 × 7 6 ,,	4¼ × 2	1½	CABWON	80		
16	7½″ dia.	3 ft. dia.	24	192	24	2	28	0	4 7¼ × 4 10 × 7 6 ,,	4¼ × 2	2	CABTINE	103		
24	7½″ dia.	3 ft. dia.	16	192	25	1	30	0	5 3 × 5 0 × 8 0 ,,	4¼ × 2	2	CABNOR	105		
32	7½″ dia.	3 ft. dia.	12	192	26	2	31	0	6 1 × 5 7 × 8 0 ,,	4¼ × 2	3	CABITH	106	55	184A
36	7½″ dia.	3 ft. dia.	10⅔	192	27	0	32	0	6 10 × 6 0 × 8 0 ,,	4¼ × 2	3	CABSTAN	118		
48	7½″ dia.	3 ft. dia.	8	192	28	2	34	0	8 0½ × 6 5 × 8 0 ,,	4¼ × 2	4	CABSTIX	122		
12	9¾″ dia.	3 ft. dia.	25	150	25	0	30	0	4 4¼ × 4 6⅝ × 8 0 ,,	5¼ × 2¼	1½	CARIMP	83		
16	9¾″ dia.	3 ft. dia.	18⅔	150	25	2	31	0	4 9¾ × 4 9½ × 8 0 ,,	5¼ × 2¼	2	CABWIRE	80		
24	9¾″ dia.	3 ft. dia.	12½	150	27	0	33	0	5 9¼ × 5 3 × 8 0 ,,	5¼ × 2¼	3	CARTYP	110		
32	9¾″ dia.	3 ft. dia.	9½	150	28	2	34	0	6 9¼ × 5 9 × 9 0 ,,	5¼ × 2¼	4	CARSPED	118		
36	9¾″ dia.	3 ft. dia.	8⅓	150	31	2	38	0	7 2¾ × 6 0 × 9 0 ,,	5¼ × 2¼	4	CARDON	125		
48	9¾″ dia.	3 ft. dia.	6¼	150	35	0	42	0	8 8¼ × 6 8½ × 9 0 ,,	5¼ × 2¼	5	CARRING	138		
16	11 7/16″ dia.	4′ to 8′ dia.	13¾	110	65	0	75	0	7 6 × 7 4 × 9 7 ,,	6¼ × 3	3	CABRALOON	40		
24	11 7/16″ dia.	4′ to 8′ dia	9⅙	110	70	0	82	0	7 6 × 8 6 × 9 7 ,,	6¼ × 3	4	CABRALDEN	40		
32	11 7/16″ dia.	4′ to 8′ dia.	6⅞	110	82	0	96	0	9 4 × 9 1½ × 10 0 ,,	6¼ × 3	5	CABRALTHIR	40		
36	11 7/16″ dia.	4′ to 8′ dia.	6⅑	110	87	0	102	0	10 1 × 9 5 × 11 0 ,,	6¼ × 3	5	CABRALSIL	40		
48	11 7/16″ dia.	4′ to 8′ dia.	4 7/12	110	100	0	115	0	12 10 × 9 10 × 13 0 ,,	6¼ × 3	7½	CABRALFOR	40		
24	7 61/64″ dia.	5′ 0″	15	180	60	0	75	0	7 1 × 7 11 × 10 0 ,,	4¼ × 2	4	YABWY	40	13	194A
80	7½″ dia.	Special Design	—	—	360	0	400	0	18 0 × 18 0 × 4 6 ,, Over Carriers	5⅝ × 5	15	BRALA	76	11	208A

DUAL SLIDE PLATE WIRE BRAIDING MACHINES

H.P.	No. of Carriers	Size of Horngears	Size of Haul-off	Revolution of Carriers per min. Round the Track	Production Stitches per min.	Weights		Overall Sizes of Machines	Size of Bobbins	Code Words	Shipping Measurements	Illustrated	
						Nett	Gross					Page No.	Photo. No.
		in.	ft.			Cwt.	Cwt.	ft. in. ft. in. ft. in.	in. in.		cu. ft. per ton		
3	24	5½	3	17	204	40	48	5 6 × 8 7 × 8 4 high	3⅛ × 1⅝	OTIER	50		
4	32	5½	3	12¾	204	55	65	6 4 × 8 10 × 8 4 ,,	3⅛ × 1⅝	OTYPE	50		
5	40	5½	3	10⅕	204	65	78	6 10½ × 9 2½ × 8 4 ,,	3⅛ × 1⅝	OTONS	50		
5	32	6⅜	3	10½	169	62	77	6 0 × 9 0 × 8 5 ,,	3½ × 2	DUALO	50	12	131A

FLAT WIRE BRAIDING MACHINES

No. of Carriers	Size of Bobbins	Size of Pulleys	Stitches per minute	Floor Space	H.P.	Weights				Code Words	Shipping Measurements	Illustrated	
						Nett		Gross				Page No.	Photo. No.
						Ton	Cwt.	Ton	Cwt.		cu. ft. per ton		
13	6¼″ × 3″	14″ × 3½″	110	5′ 3″ × 5′ 2″	2	1	3	1	7	WIRBRA	72½		
15	6¼″ × 3″	14″ × 3½″	110	5′ 3″ × 5′ 4″	3	1	5	1	10	WIRCOP	75		
17	6¼″ × 3″	14″ × 3½″	110	5′ 3″ × 5′ 6″	4	1	8	1	12	WIRDEN	80		
19	6¼″ × 3″	14″ × 3½″	110	5′ 3″ × 5′ 8″	4	1	10	1	14	WIRELT	84		
21	6¼″ × 3″	14″ × 3½″	110	5′ 3″ × 5′ 10″	5	1	13	1	17	WIRFIL	88½	83	13A

HIGH-SPEED SLIDE PLATE TYPE HORIZONTAL WIRE BRAIDING MACHINES

No. of Carriers	Dia. of Horngear	Size of Bobbin	Revolutions of Carriers Round Track per minute	Production in Stitches per minute	Overall Dimensions	Weights		Shipping Measurements	Code Words	H.P.	Illustrated	
						Gross	Nett				Page No.	Photo. No.
						Cwt.	Cwt.	cu. ft. per ton				
16	7·48″	3¾″ × 2″	25	200	9′ 0″ × 4′ 4″	27	23	100	HIPIX	2		
24	7·48″	3¾″ × 2″	16⅔	200	9′ 0″ × 5′ 0″	29	24	105	HIPRE	3	56	259
32	7·48″	3¾″ × 2″	12½	200	9′ 6″ × 6′ 0″	31	26	108	HIPLA	4		
36	7·48″	3¾″ × 2″	11	200	9′ 6″ × 6′ 6″	32	27	108	HIPSO	4		
48	7·48″	3¾″ × 2″	8⅓	200	10′ 6″ × 7′ 9″	35	29	112	HIPAX	6	56	267
60	7·48″	3¾″ × 2″	6⅔	200	11′ 0″ × 9′ 0″	40	34	120	HIPOW	7½		
64	7·48″	3¾″ × 2″	6¼	200	11′ 6″ × 9′ 2″	41	35	120	HIPOR	7½		
24 2-head in Tandem	7·48″	3¾″ × 2″	16⅔	200	13′ 0″ × 5′ 0″	53	45	105	HIPTAN	5		

BRAIDING and PLAITING MACHINES for STEAM PACKING, Etc.
"E" TYPE VERTICAL BRAIDING MACHINES—UPWARD TAKE-OFF

No. of Carriers	Floor Space	Size of Bobbin or Cheese	Weights		Revolutions of Carriers Round Track per minute	Production Stitches per minute	H.P.	Code Words	Illustrated	
			Nett	Gross					Page No.	Photo. No.
			Cwt.	Cwt.						
16	4′ 6″ × 3′ 4″	8″ × 3″	10	14	"Speedway" Carriers 30 r.p.m. "E" type Carriers 25 r.p.m.	"Speedway" Carriers 240 "E" type Carriers 200	2	CORBRAID	64	76B
16	5′ 4″ × 5′ 1″	8″ × 4″	11	15	"Speedway" Carriers 26 r.p.m. "E" type Carriers 22 r.p.m.	"Speedway" Carriers 208 "E" type Carriers 174	3	REXBRAID		

Shipping Measurements, 90 cu. ft. per ton.

ROPE LAGGING MACHINES for CARDED ASBESTOS SLIVER, DOWNWARD TAKE-OFF with ROLLER and TUNDISH

No. of Carriers	Floor Space	Size of Bobbin or Cheese	Weights		Revolutions of Carriers Round Track per minute	Production Stitches per minute	H.P.	Shippng Measurements cu. ft. per ton	Code Words	Illustrated	
			Nett	Gross						Page No.	Photo. No.
			Cwt.	Cwt.							
12	3′ 6″ × 2′ 4″	8″ × 3″	7	9	"Speedway" Carriers 48 r.p.m. "E" type Carriers 40 r.p.m.	"Speedway" Carriers 240 "E" type Carriers 200	1½	70	DOWBRAID		
16	4′ 10″ × 3′ 6″	8″ × 3″	10	14	"Speedway" Carriers 30 r.p.m. "E" type Carriers 25 r.p.m.	"Speedway" Carriers 240 "E" type Carriers 200	2	70	DOWPLAT	61	183A
24	6′ 10″ × 5′ 4″	8″ × 3″	14	18	"Speedway" Carriers 20 r.p.m. "E" type Carriers 16⅔ r.p.m.	"Speedway" Carriers 240 "E" type Carriers 200	3	70	DOWPAK		

DOWNWARD TAKE-OFF

No. of Carriers	Floor Space	Size of Bobbin or Cheese	Weights		Stitches per minute		H.P.	Shipping Measurements cu. ft. per ton	Code Words	Illustrated	
			Nett	Gross	"Speedway"	"E" type				Page No.	Photo. No.
12	3′ 6″ × 2′ 4″	8″ × 3″	7	9	240	200	1	70	BRAFAST		
16	4′ 10″ × 3′ 6″		10	14	240	200	1½	70	BRAQUIK	62	140A
24	6′ 10″ × 5′ 4″		14	18	240	200	2	70	BRASPEED	65	212A

VERTICAL BRAIDING MACHINE with INVERTED CARRIERS

No. of Carriers	Floor Space	Weights		Stitches per minute	H.P.	Shipping Measurements	Code Words	Illustrated	
		Nett	Gross					Page No.	Photo. No.
		Cwt. Qr.	Cwt. Qr.			cu. ft. per ton			
12	4′ 1″ × 4′ 5″ × 5′ 9½″ high	13 0	16 2	200	2	106	INVEL		
16	4′ 6″ × 4′ 5″ × 5′ 9½″ ,,	14 2	18 2	200	3	106	INVIX	64	177B

VERTICAL SQUARE PLAITING MACHINES

No. of Carriers	Size of Cheeses	Carrier Speed	Stitches per minute	Floor Space	Weights		H.P.	Shipping Measurements	Code Words	Illustrated	
					Nett	Gross				Page No.	Photo. No.
		r.p.m.			Cwt.	Cwt.		cu. ft. per ton			
8	8″ × 3″	30	120	2′ 10″ × 2′ 9½″	7	9	1	70	CORPLAT	63	234B
8–12	9″ × 5″	16½	66	5′ 9″ × 4′ 7″	28	31	3	60	CONTENTLY	63	112B
8–12	9″ × 6″	16½	66	8′ 2″ × 6′ 0″	36	42	4	50	CONCERN		

ASBESTOS ROPE LAGGING MACHINE

Weights		Pulleys		H.P.	Space Occupied	Shipping Measurements	Code Word	Illustrated	
Nett	Gross	Size	Speed					Page No.	Photo. No.
Cwt. 22	Cwt. 29	14″ × 3½″	120 r.p.m. (loose pulley)	2	6′ 10½″ × 5′ 1″ × 6′ 6″ high	cu. ft. per ton 78	CORALLOID	61	21A

"E" TYPE ROPE LAGGING MACHINE with UPWARD TAKE-OFF

No. of Carriers	Floor Space	Size of Bobbin or Cheese	Revs. of Carriers Round Track per minute	Production Stitches per minute	Weights		Code Word	Illustrated	
					Gross	Nett		Page No.	Photo. No.
12	4′ 3″ × 4′ 6″	8″ × 3″	33⅓	200	16-cwt.	12-cwt.	ETYPE	62	82A

Shipping Measurements, 70 cu. ft. per ton.

BRAIDING MACHINE with DOWNWARD TAKE-OFF

Horngear Speed	Stitches per minute	Floor Space	H.P.	Weights		Shipping Measurement	Code Word	Illustrated	
				Nett	Gross			Page No.	Photo. No.
r.p.m.				Cwt.	Cwt. Qr.	cu. ft. per ton			
180	180	1′ 11″ × 2′ 4″ × 3′ 6″ high	$\frac{3}{4}$	2	2 3	55	SASHFLOR	63	42B

ADJUSTABLE MACHINE for FORMING PACKINGS into SQUARE and RECTANGULAR FORM and for FORMING BRAKE LININGS, Etc.

Sizes of Packings, Brake-Linings, etc., Machine capable of forming		Weights		Fast and Loose Pulleys		Space Occupied	H.P.	Shipping Measurement	Code Word	Illustrated	
		Gross	Nett	Size	Speed					Page No.	Photo. No.
Min.	Max.	Cwt.	Cwt.		r.p.m.			cu. ft. per ton			
$\frac{3}{16}$″ sq.	2″ sq.	16	13	10″ × 2$\frac{1}{2}$″	50	5′ × 2′ × 5′ 3″ high	$\frac{1}{2}$	97	CONTENTION	65	118B

ROPE or CORE TWISTING MACHINE (CONSTANT PITCH)

Weights		Size of Fast Pulley	Speed of Loose Pulley	Production in Twists per min.	H.P.	Dimensions	Shipping Measurements	Code Word	Illustrated	
Nett	Gross								Page No.	Photo. No.
Cwt. Qr.	Cwt. Qr.	Dia. Face	r.p.m.				cu. ft. per ton			
11 2	13 0	14″ × 3$\frac{1}{2}$″	104	200	2	7′ 10″ × 2′ 9″	56	CORTWIST	67	126B

HAND COILING MACHINE

Capacity	Dimensions	Weights		Shipping Measurements	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
20″ dia. × 18″ wide	4′ 2″ × 2′ 0″	1 cwt. 1 qr. 15 lbs.	3 qrs. 9 lbs.	114 cu. ft. per ton	HANCO	67	234A

WIRE SWIFTS

Model	Capacity	Coil Diameter		Weghts		Shipping Measurements	Code Words	Illustrated	
		Max.	Min.	Nett	Gross			Page No.	Photo. No.
						cu. ft. per ton			
AWS.1	112 lb.	30″	8″	2 qr. 22 lb.	1 cwt. 14 lb.	40	ADSWIFT	79	238A
AWS.2	224 lb.	36″	10″	1 cwt. 2 qr. 4 lb.	2 cwt. 1 qr.	40	WIRSWIFT	79	238A
TS.1	336 lb.	40″	10″	2 cwt. 0 qr. 1 lb.	2 cwt. 3 qr. 1 lb.	40	TIPSWIFT	79	238B
All Metal	336 lb.	14″	8″	1 cwt. 2 qr.	2 cwt. 1 qr.	40	METSWIFT	79	39A

BENCH TYPE SINGLE SPINDLE BOBBIN WINDING MACHINE

Traverse of Bobbins	Pulleys		H.P.	Weights		Floor Space	Shipping Measurements	Code Words	Illustrated	
	Size	Speed per minute		Nett	Gross				Page No.	Photo. No.
				lb.	lb.					
Up to 3″	2$\frac{1}{4}$″ × 1$\frac{1}{8}$″	200	1/20	30	66	1′ 4″ × 0′ 7$\frac{1}{2}$″	90 cu. ft. per ton	VERSIND	26	66A
,, 5″	2$\frac{1}{4}$″ × 1$\frac{1}{8}$″	200	1/20	35	76	1′ 5″ × 0′ 8″		VERONE	26	66A
,, 6″	2$\frac{1}{4}$″ × 1$\frac{1}{8}$″	200	1/20	40	81	1′ 8″ × 0′ 9″		VERTWO	26	66A
,, 8″	1$\frac{3}{4}$″ × 6″	200	1/16	55	94	2′ 5″ × 0′ 10″		VERTHREE	26	66A
,, 9″	1$\frac{3}{4}$″ × 6″	175	1/10	60	100	2′ 5″ × 0′ 10″		VERFOUR	26	66A
,, 10″	1$\frac{3}{4}$″ × 6″	175	1/10	66	108	2′ 5″ × 0′ 10″		VERFIVE	26	66A
,, 12″	1$\frac{3}{4}$″ × 6″	175	1/10	70	112	2′ 6″ × 1′ 0″		VERSIX	26	66A
,, 15″	1$\frac{3}{4}$″ × 6″	175	1/10	80	122	2′ 7″ × 1′ 2″		VERSEVEN	26	66A

DOUBLE HEAD TRAVERSE WINDING MACHINE

Traverse of Bobbins	Speed of Loose Pulleys	H.P.	Weights		Floor Space	Shipping Measurements	Code Words	Illustrated	
			Nett	Gross				Page No.	Photo. No.
Up to 3″	200 r.p.m.	1/10	50 lbs.	90 lbs.	1′ 11″ × 0′ 8″	100 cu. ft. per ton	SHARONE	25	182B
,, 5″	200 r.p.m.	1/10	50 lbs.	90 lbs.	1′ 11″ × 0′ 8″		SHARTWO	25	182B
,, 6″	200 r.p.m.	1/10	85 lbs.	130 lbs.	2′ 9¼″ × 1′ 6″		SHARTHREE	25	182B
,, 8″	200 rp.m..	1/8	85 lbs.	130 lbs.	2′ 9¼″ × 1′ 6″		SHARFOUR	25	182B

BENCH TYPE LARGE BOBBIN WINDING MACHINE

Overall Length	Overall Width	Overall Height	Weights		Shipping Measurements	H.P.	Pulleys		Code Word	Illustrated	
			Nett	Gross			Size	Speed		Page No.	Photo. No.
			Qr. Lb.	Cwt. Qr.	cu. ft. per ton						
2′ 4½″	1′ 7½″	1′ 3″	2 16	1 1	100	1/8	6″	150	CARTRAV	26	15B

NEW DESIGN WIRE WINDING MACHINE

Speed of Bobbin Spindle	Size of Driving Pulleys	No. of Heads	H.P.	Weights		Floor Space	Shipping Measurements	Code Word	Illustrated	
				Nett	Gross				Page No.	Photo. No.
				Ton Cwt.	Tons Cwt.		cu. ft. per ton			
500–550 r.p.m.	14″ × 3½″	10	2	1 10	2 0	20′ 0″×5′ 0″	77	TENED	25	12A

5-DRUM, 10-SPINDLE DOUBLE FLANGED BOBBIN WINDING MACHINE

H.P.	Floor Space	Nett Weight	Gross Weight	Shipping Measurements	Code Word	Illustrated	
						Page No.	Photo. No.
1	6′ 2″ × 3′ 6″	13 cwt. 3 qr.	19 cwt.	75 cu. ft. per ton	DRUMWIND	26	16B

QUICK TRAVERSE "CLOSE" WINDER

H.P.	No. of Heads	Weights		Dimensions	Shipping Measurements	Code Word	Illustrated	
		Nett	Gross				Page No.	Photo. No.
¼	1	2½ cwt.	4½ cwt.	1′ 3″×2′ 0″×5′ 0″ high	80 cu. ft. per ton	CLOSWIND	27	39B
1	6	9 cwt.	14 cwt.	6′ 6″×2′ 0″×5′ 0″ ,,	80 ,,		27	194B

BOLTON UNIVERSAL WIRE WINDING MACHINE and 12-BOBBIN CREEL

	Weights		Dimensions	H.P.	Shipping Measurements	Code Words	Illustrated	
	Nett	Gross					Page No.	Photo. No.
Winder	5 cwt. 1 qr.	7 cwt. 2 qr.	2′ 0″ × 3′ 5″	½	80 cu. ft. per ton	INMOR	28	214A
Creel	2 cwt. 3 qr.	3 cwt. 2 qr.	1′ 10″ × 8′ 3″			WIRECREEL	28	220

For BRAKE LINING SEGMENTS, Etc.

Capacity	Speed of Marking	Maximum Height of Letters	Weights		Floor Space	H.P.	Shipping Measurements	Code Word	Illustrated	
			Nett	Gross			cu. ft. per ton		Page No.	Photo. No.
4″ wide × ⅜″ thick	40 ft. per min.	1¼″	7½ cwt.	9½ cwt.	2′ 0″ × 2′ 0″	1	85	SEGLEC	85	74A

MACHINE FOR IMPRESSING CAB TYRE SHEATHED CABLES

Size of Base	Height	Diameter of Marking Wheel	Code Word	Illustrated	
				Page No.	Photo. No.
12″	To suit requirements	4″	PRESCAB	49	84A

MARKING MACHINE for CONTINUOUS PRINTING of RUBBER-COVERED or WRAPPED ELECTRIC CABLES, TAPES, Etc.

	Marking Speed	Weights		Floor Space with Take-up Stand	H.P.	Shipping Measurements	Code Words	Illustrated	
		Nett	Gross					Page No.	Photo. No.
“ Duplex ”	100 ft. per min.	3 cwt. 3 qr.	5 cwt. 1 qr.	12′ 0″ × 2′ 3″	1	65 cu. ft. per ton	DUTYP	49	142B
Single	100 ft. per min.	4 cwt. 3 qr.	4 cwt. 1 qr.	11′ 0″ × 2′ 3″	1	65 cu. ft. per ton	SITYP	49	143A

PILLAR TYPE SENSITIVE ADJUSTABLE TENSION CREEL

No. of Bobbins per Section	Size of Bobbin	Speed	(6 Bobbin Creel) Weights		Shipping Measurements	Overall Dimensions	Code Word	Illustrated	
			Gross	Nett				Page No.	Photo. No.
			lbs.	lbs.					
2	3½″ dia. × 4″ overall	800/900 ft. per min.	40	30	80 cu. ft. per ton	14″ × 10″ × 18″ high	CRESEC	80	158A

CREEL for HOLDING 1064 BOBBINS

Size of Bobbin	Dimensions	Weights		Shipping Measurements	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
2 1/16″ × 3⅜″ traverse	21′ × 8′ × 7′ high	33 cwt.	27½ cwt.	55 cu. ft. per ton	CREEY	80	162A

“LANCASTER” WIRE COTTON COVERING MACHINES

Machines	Overall Lengths	Overall Width	Overall Height	Weights		H.P.	Shipping Measurements	Code Words		Illustrated	
				Nett	Gross			Belt	Motor	Page No.	Photo. No.
6 head	6′ 4″	4′ 3″	6′ 6¼″	17 cwt.	22 cwt.	1	110 cu. ft. per ton	COVERER	COSIX	34	232A
12 head	11′ 9″	4′ 3″	6′ 6¼″	33 cwt.	43 cwt.	2	110 cu. ft. per ton	COVMORE	COVEL		
18 head	17′ 6″	4′ 3″	6′ 6¼″	49 cwt.	64 cwt.	3	110 cu. ft. per ton	COVEIGHT	COLEC		

⅙ H.P. if separate Motor Drive to each Head.

WIRE BUNCHING or TWISTING MACHINES (VERTICAL)

No. of Heads	Size of Reels	Weights		H.P.	Shipping Measurements	Code Words	Illustrated	
		Nett	Gross				Page No.	Photo. No.
2	10″ × 6″	14 cwt.	20 cwt.	½ per head	90 cu. ft. per ton	WIREBUN	32	195A
3	10″ × 6″	20 cwt.	27 cwt.	½ per head	90 cu. ft. per ton	WIREBUN		
4	10″ × 6″	27 cwt.	35 cwt.	½ per head	90 cu. ft. per ton	WIREBUN	31	119A

Details of Floor Space on application (dependent on position of Creels).

HORIZONTAL SENSITIVE BUNCHING MACHINE for FINE ENAMELLED, COVERED or BARE WIRES from ·002″—·012″, Bobbin Size 6″ Traverse × 3″ Diameter—2,200 twists per minute per head

	Weights		Dimensions	H.P.	Shipping Measurements	Code Words	Illustrated	
	Nett	Gross					Page No.	Photo. No.
	Cwt. Qr.	Cwt. Qr.						
2-head machine	11 1	16 1	4′ 8″ × 3′ 2″ × 3′ 9″ high	1	100 cu. ft. per ton	HORBUNIX	32	172
2-creels	5 1	8 3	4′ 9″ × 1′ 8½″ each					

PAPER LAPPING MACHINES

No. of Heads	Overall Length	Overall Width	Weights		Speed of Heads	Diameter of Cable machine will cover	H.P.	Shipping Measurements	Code Words	Illustrated	
			Nett	Gross	r.p.m.			cu. ft. per ton		Page No.	Photo. No.
4	32′ 0″	5′ 3″	2½ tons	3 tons	250/300	⅛″ dia. up to 1⅜″ dia.	5	40	LAPWING		
2	18′ 0″	5′ 3″	15 cwt. 2 qr.	1 ton 4 cwt.	250/300	⅛″ dia. up to 1⅜″ dia.	3	40	LAPTWO	39	88B
2	15′ 6″	5′ 3″	23 cwt. 0 qr.	1 ton 8 cwt.	250/300	⅛″ dia. up to 1¼″ dia.	3	40	LAPCA	39	217B

VERTICAL TAPING MACHINE FOR ELECTRIC CABLES WITH 4 DETACHABLE HEADS

Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
	Gross	Nett				Page No.	Photo. No.
Machine only 12′ wide × 4′ × 7′ 8″ high	61 cwt.	53 cwt.	60 cu. ft. per ton	4	TACAM	35	93A

4 TAKE-UP and 4 PAY-OUT STANDS for above (one each per head)

16 cwt. 3 qr. 13 cwt. 2 qr. 68 cu. ft. per ton

Machine and Stands as working unit. Floor space 12′ long × 9′ wide.

COMPOUNDING PLANT for 4 WIRES

	Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
Take-up Stands	11′ 6″ × 6′ 3″	28 cwt.	23 cwt.	60 cu. ft. per ton	4	COMPO	36	106A
Pay-out Stands	9′ 6″ × 3′ 9″			60 cu. ft. per ton				
Compound Tank	16′ × 2′	24 cwt.	19 cwt.	60 cu. ft. per ton				

HIGH-SPEED HORIZONTAL TWINNING MACHINES

Dimensions	Weights		Shipping Measurements	H.P.	Flyer Speed	Code Word	Illustrated	
	Gross	Nett					Page No.	Photo. No.
Machine only 11′ 0″ × 2′ 6″ wide Stand only 3′ 0″ × 3′ 0″ wide	28 cwt.	23 cwt.	110 cu. ft. per ton	2	450 r.p.m.	ZOLAR	38	161B

VERTICAL TWINNING and LAYING-UP MACHINE

No. and Size of Bobbins	Dimensions	Weights		Shipping Measurements	H.P.	Code Words	Flyer Speed	Illustrated	
		Gross	Nett					Page No.	Photo. No.
2—15″ dia. × 7¼″ trav.	5′ 6″ × 4′ 4″ × 8′ 6″ high	30 cwt.	25 cwt.	110 cu. ft. per ton	2	VERTWIN	250 r.p.m.	37	98A
4—12″ dia. × 6″ trav.	5′ 6″ × 4′ 4″ × 8′ 6″ high	34 cwt.	29 cwt.	110 cu. ft. per ton	2	VERTAC	250 r.p.m.	37	128B

"MANCHESTER" HORIZONTAL WIRE STRANDING and LAYING-UP MACHINE fitted with De-Torsioning Ring

No. and Size of Bobbins	Dimensions	Weights		Shipping Measurements	H.P.	Code Words	Illustrated	
		Gross	Nett				Page No.	Photo. No.
12—9½″ dia.	17′ × 6′ 3″ × 3′ 9″ high	3 tons 10 cwt.	2 tons 17 cwt.	60 cu. ft. per ton	5	STRAN	42B	129A
1 cage 6 bobbin 16″ dia. 1 cage 12 bobbin 9½″ dia.	27′ × 6′ 3″ × 4′ 0″ high	8 tons 5 cwt.	6 tons 12 cwt.	60 cu. ft. per ton	8	STRANO	44	180A
1 cage 6 bobbin 16″ dia. 1 cage 12 bobbin 16″ dia.	34′ × 9′ 0″ × 4′ 0″ high	13 tons	11 tons	60 cu. ft. per ton	16	STALA	43	244

"MANCHESTER" TYPE 2/3 CORE, SINGLE CAGE, HORIZONTAL WIRE LAYING-UP MACHINE

Size of Bobbin	Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
15½″ dia. × 6½″ traverse	12′ 9″ × 3′ 11″ × 4′ 3″ high	2 tons 4 cwts.	1 ton 6 cwts.	60 cu. ft. per ton	3	LAYEE	42B	247

HIGH SPEED MULTIPLE TELEPHONE CORD PLAITING MACHINE

Overall Dimensions	Weights		Shipping Measurements	Code Word	H.P.	Illustrated	
	Gross	Nett				Page No.	Photo. No.
3′ 6″ × 4′ 8″ × 5′ 8″ high	14 cwt. 3 qr.	12 cwt. 1 qr.	90 cu. ft. per ton	TELCO	1	50	127A

HALF-ROUND ALUMINIUM OR BRASS WIRE WRAPPING MACHINE

Weights		Overall Length	Overall Width	Height to Spindle Centres	Shipping Measurements	H.P.	Code Word	Illustrated	
Nett	Gross							Page No.	Photo. No.
8½ cwt.	10½ cwt.	5′ 10″	2′ 6″	2′ 8″	42 cu. ft. per ton	½	ALUWRAP	50	3A

RUBBER LAPPING MACHINE

No. of Heads	Dimensions	Weights		Shipping Measurements	H.P.	Code Words	Illustrated	
		Gross	Nett				Page No.	Photo. No.
3	20′ 2″×5′ 6″×4′ 6″ high	4 tons	3 tons 1 cwt.	60 cu. ft. per ton	4	RUTRE	40	89A
4	24′ 6″×5′ 6″×4′ 6″ ,,	5 tons	4 tons 1½ cwt.	60 cu. ft. per ton	5	RUFOR		

TAKE-UP and PAY-OUT DRUM STANDS

Diameter of Drum	Weights				Shipping Measurements	Illustrated	
	Take-up		Pay-out				
	Gross	Nett	Gross	Nett		Page No.	Photo. No.
2′ 0″	4 cwt.	3 cwt.	3 cwt.	2 cwt.	60 cu. ft. per ton	15	160B
4′ 0″	13½ cwt.	11 cwt.	11½ cwt.	9 cwt.	60 cu. ft. per ton	15	108B
5′ 0″	14½ cwt.	12 cwt.	12½ cwt.	10 cwt.	60 cu. ft. per ton		
6′ 6″	29 cwt.	25 cwt.	20 cwt.	17½ cwt.	70 cu. ft. per ton	17 16 16	139A 52B and 198B
8′ 6″	40 cwt.	35 cwt.	31 cwt.	27½ cwt.	70 cu. ft. per ton	16	157A
10′ 0″	102 cwt.	76 cwt.	73 cwt.	54 cwt.	100 cu. ft. per ton	18	86B

CODE WORDS

Diameter of Drum	Stands with Raising and Lowering Device		Stands without Raising and Lowering Device	
	Take-up	Pay-out	Take-up	Pay-out
2′ 0″	TOWUP	TOWOFF	PATWO	KETWO
3′ 0″	TRESUP	TRESOFF	PATRE	KETRE
4′ 0″	FORUP	FOROFF	PAFOR	KEFOR
5′ 0″	FIVUP	FIVOFF	PAFIV	KEFIV
6′ 6″	SIXUP	SIXOFF	PASIX	KESIX
8′ 6″	EITUP	EITOFF	PATET	KETET
10′ 0″	TENUP	TENOFF	PANTE	KENTE

DOUBLE SIDED TAKE-UP and PAY-OUT STANDS

	No. of Drums	Diameter of Drums	Gross Weight	Nett Weight	Shipping Measurements	Code Words	Illustrated	
							Page No.	Photo. No.
Take-up	12	25″	30 cwt.	24 cwt.	60 cu. ft. per ton	DUBAK	33	91A
Pay-out	12	6–25″ 6–36″	25 cwt.	19 cwt.	60 cu. ft. per ton	DUPAY	33	111A

INFINITELY VARIABLE TRAVERSE MOTION

Nett Weight	Gross Weight	Code Word	Illustrated	
			Page No.	Photo. No.
Dependent on size of traverse required	Dependent on size of traverse required	TRAVMO	15	60B

DRUM or REEL WINDER

Diameter of Drum	Shipping Measurement	Nett Weight	Gross Weight	Code Word	H.P.	Illustrated	
						Page No.	Photo. No.
25″	60 cu. ft. per ton	3½ cwt.	4½ cwt.	WINUM	½	18	79A

RAG OR WRAPPING CLOTH ROLLING MACHINE FOR RUBBER HOSE

Speed	H.P.	Weights		Shipping Measurements	Overall Dimensions	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
200/300 r.p.m.	¾	4½ cwt.	3 cwt.	110 cu. ft. per ton	2′ 8″ × 3′ 0″	RAGRO	58	66B

VARIABLE SPEED HEADSTOCK

Spindle Speed	H.P.	Weights		Shipping Measurements	Overall Dimensions	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
24 to 60 r.p.m.	3	18 cwt.	14 cwt.	85 cu. ft. per ton	3′ 9″ × 3′ 0″	HOSEUFT	58	128A

PLANT for the MANUFACTURE of WRAPPED and EXTRUDED ARC WELDING ELECTRODES

Type	H.P.	Dimensions	Weights		Shipping Measurements	Illustrated	
			Gross	Nett		Page No.	Photo. No.
Cut length	1½	4′ 2″×2′ 7″×5′ 11″ high	17 cwt.	12½ cwt.	80 cu. ft. per ton	77	210B
Wrapped	3	23′ 6″×2′ 6″×5′ 9″ ,,	3 tons	2 tons 6 cwt.	60 cu. ft. per ton	77	197A
Braided	3	23′ 6″×2′ 6″×5′ 9″ ,,	3 tons	2 tons 6 cwt.	60 cu. ft. per ton	77, 78	
Long length, coil wound	2½ and 3	22′ 6″×2′ 10″×5′ 9″ ,,	3 tons	2 tons 6 cwt.	60 cu. ft. per ton	77, 78	

"BRAIDEX" NON-BALLOONING, HIGH-DUTY, TWO-WAY, CORE COVERING MACHINE for V.I.R. AERIAL, TELEPHONE FLEXIBLE and OTHER CABLES

Overall Dimensions	Weights		Shipping Measurements	Code Word	H.P.	Illustrated	
	Gross	Nett				Page No.	Photo. No.
	Cwt. Qr. Lb.	Cwt. Qr. Lb.					
5′ 5″ wide × 2′ 9″ deep × 6′ 2½″ high	10 0 14	7 0 20	106 cu. ft. per ton	BRAIDEX	¼	84	

AIR BRAKE and HOSE-MAKING and COVERING MACHINE

Capacity	H.P.	Weights		Overall Dimensions	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
30″ lengths	2	9½ cwt.	6½ cwt.	4′ 3″×4′ 4″×4′ 5″ high	ARMAC	59	90B
36″ lengths	2	11 cwt.	7 cwt.	4′ 3″×4′ 4″×4′ 5″ high			

AIR BRAKE HOSE-WRAPPING MACHINE

Capacity	H.P.	Weights		Overall Dimensions	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
30″ lengths	2	9½ cwt.	6½ cwt.	4′ 3″×4′ 5″×4′ 5″ high	AIRRAD	59	90A
36″ lengths	2	11 cwt.	7 cwt.	4′ 3″×4′ 5″×4′ 5″ high			

HOSE ARMOURING MACHINE

Capacity	H.P.	Weights		Overall Dimensions	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
½″ to 3″	1½	9½ cwt.	7 cwt.	3′ 0″×2′ 0″×4′ 0″ high	COILARM	57	7B

WIRE COILING and SPINNING MACHINE

Capacity	H.P.	Weights		Overall Dimensions	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
½″ to 3″	1	4 cwt.	3 cwt.	2′ 4″×1′ 3″×3′ 9″ high	COILSPIN	57	41A

WIRE ARMOURING STRINGING or CORDING MACHINE

H.P.	Weights		Overall Dimensions	Code Word	Illustrated	
	Gross	Nett			Page No.	Photo. No.
1	11 cwt.	8 cwt.	14′ 6″×2′ 0″×3′ 6″ high	STRINGCORD	57	20B

TINNING PLANT

Production per Head ft. per min.	Weights		Floor Space	H.P.	Shipping Measurements	Code Words	No. of Wires	Illustrated	
	Nett	Gross			cu. ft. per ton			Page No.	Photo. No.
210/300	2 tons 12 cwt.	3 tons 14 cwt.	39′ 6″×4′ 8″×5′ 0″ high	5	80	TINPLA	8	29	57B
150/200	15 cwt. 2 qr.	1 ton 5 cwt.	20′ 0″×6′ 0″×5′ 6″ ,,	½	80	TINFI	6	29	114A

GALVANIZING PLANT

Production per Head ft. per min.	Weights		Floor Space	H.P.	Shipping Measurements	Code Word	Illustrated	
	Nett	Gross			cu. ft. per ton		Page No.	Photo. No.
80/322	2 tons 15 cwt.	3 tons 17 cwt.	30′ 11″×6′ 9″×4′ 3″ high	5	80	GALVA	30	78A

HEAVY TYPE 7-HEAD METAL AND FABRIC TAPING MACHINE for GAS-FILLED TRANSMISSION ELECTRIC POWER CABLES

No. of Heads	Weights		Dimensions	H.P.	Shipping Measurements	Code Word	Illustrated	
	Nett	Gross					Page No.	Photo. No.
7	18 tons 4 cwt. Without Stands	23 tons 10 cwt.	92′ × 15′, with 10′ stands 57′ × 10′ 6″, without stands	15	55 cu. ft. per ton	SEVAR	41 42	175 176

HORSE HAIR PICKING and SINGLE COTTON COVERING MACHINE

No. of Heads	Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
6	19′ 6″ × 2′ 0″ × 3′ 6″ high	15½ cwt.	12½ cwt.	78 cu. ft. per ton	2	HORSA	81	85A

VULCANIZING DRUM WRAPPING MACHINE

Dimensions	Weights		Shipping Measurements	H.P	Code Word	Illustrated	
	Gross	Nett				Page No.	Photo No.
8′ 0″ × 5′ 6″ wide	13½ cwt.	10 cwt.	110 cu. ft. per ton	3	DRURA	81	95A

VERTICAL WIRE TWISTING MACHINE

No. of Heads	Weights		Shipping Measurements	H.P.	Code Words	Illustrated	
	Gross	Nett				Page No.	Photo. No.
5 10	16 cwt. 27 cwt.	11½ cwt. 22 cwt.	78 cu. ft. per ton 78 cu. ft. per ton	2 3	STRANTIVE STRANTEN	81	46A

CLOTH UNROLLING, PERCHING, MEASURING and RE-ROLLING MACHINE

Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
	Gross	Nett				Page No.	Photo. No.
9′ 6″ × 6′ 2½″	14½ cwt.	11 cwt.	110 cu. ft. per ton	1½	PERCH	82	111B

EPICYCLIC GEAR

Floor Space	Type of Drive	Weight		Shipping Measurements	Code Word	Illustrated	
		Gross	Nett			Page No.	Photo. No.
2′ 8″ × 4′ 3″ × 2′ 8″ high	Chain	Cwt. Qr. Lb. 18 2 0	Cwt. Qr. Lb. 14 2 0	80 cu. ft. per ton	DIGEA	82	77A

ELECTRIC INSULATION STRIPPING MACHINE

Dimensions	Electrical Supply	Volts across Elements	Watts	Code Word	Illustrated	
					Page No.	Photo. No.
Base 5¾″ × 3″ Height 3½″	220/250 volts A.C. 50 cycles	1·5 approx.	30	INSTR	82	234F

3-CARRIAGE, 3-BOBBIN PLAITING MACHINE

Size of Bobbin	Speed of Horngear	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
8″ traverse 6″ diameter	24 r.p.m.	30 cwt.	25 cwt.	90 cu. ft. per ton	2	PLAFU	82	47B

GIMPING MACHINE

No. of Heads	Overall Length	Overall Height	Overall Width	Speed of Table	Shipping Measurements	Weights		H.P.	Code Word	Illustrated	
						Gross	Nett			Page No.	Photo. No.
8	13′ 1″	5′ 10″	2′ 10″	r.p.m. 250	cu. ft. per ton 78	11½ cwt.	8½ cwt.	1½	GIMP	75	29B

UNIVERSAL SPINDLE BANDING and CORD LAYING MACHINE

No. of Heads	Dimensions	Weights		Shipping Measurements	H.P.	Code Word	Illustrated	
		Gross	Nett				Page No.	Photo. No.
3	1′ 7″×4′ 6″×5′ 7″ high	14½ cwt.	11½ cwt.	70 cu. ft. per ton	1	UNTRE	75	70A

GREASE MELTING TANKS

Dimensions	Weights		Shipping Measurements	Code Words	Illustrated	
	Gross	Nett			Page No.	Photo. No.
13′ 6″ × 2′ 9″	20 cwt.	15 cwt.	110 cu. ft. per ton	WAJAC	68	95B
2′ 1″ × 2′ 7″	5 cwt.	6 cwt.	110 cu. ft. per ton	CORTANK	68	237B

BOBBIN CREEL for 36 BOBBINS or CHEESES

No. of Bobbins	Size of Bobbins	Code Word	Nett Weight	Gross Weight	Dimensions	Shipping Measurements	Illustrated	
							Page No.	Photo. No.
36	12″ dia. × 10″ traverse	CORSTAND	3 cwt.	4 cwt.	6′ 0″×7′ 6″×5′ 6″ high	60 cu. ft. per ton	68	237A

DETAILS of STANDARD BOBBINS for STRANDING MACHINES

Diameter	Traverse	Capacity in Lbs.		Weight of Bobbin in Lbs.
		Steel	Copper	
6½″	3¼″	15	17	5
7½″	3¾″	24	27	6
8½″	4″	33	38	6½
9½″	4½″	49	55	8½
10½″	5¼″	64	73	13
12″	6″	97	110	20
13½″	6¾″	136	155	28
15″	7½″	185	210	37
16″	8″	215	245	47

VULCANIZED RUBBER-CABLES : CURRENT-CARRYING CAPACITY (SUBJECT TO VOLTAGE DROP) and CORRESPONDING FALL in PRESSURE

Nominal Area of Conductor (1)	Number and Diameter (in.) of Wires comprising Conductor (2)	Single Cables run in pairs (3)	Concentric or Twin Cable (4)	Three-core Cable (5)	Approximate Total Length in Circuit (Lead and Return) for 1-volt Drop with Maximum Permissible Current (Col. 3) (6)
Sq. in.		Amps.	Amps.	Amps.	Feet
0.001	1/ ·036	4·1	3·5	—	30
0·0015	1/ ·044	6·1	5·2	—	30
0·002	3/ ·029	7·8	6·7	—	30
0·003	3/ ·036	12·0	10·3	—	29
0·003	1/ ·064	12·9	11·1	—	29
0·0045	7/ ·029	18·2	15·7	13·6	28
0·007	7/ ·036	24·0	20·6	18·0	33
0·01	7/ ·044	31·0	26·6	23·2	39
0·0145	7/ ·052	37·0	32·0	27·8	45
0.0225	7/ ·064	46·0	39·0	34·0	55
0.03	19/ ·044	53·0	46·0	40·0	61
0.04	19/ ·052	64·0	55·0	47·0	71
0·06	19/ ·064	83·0	71·0	59·0	83
0·075	19/ ·072	97·0	83·0	69·0	90
0·1103	19/ ·083	118·0	100·0	83·0	98
0·12	37/ ·064	130·0	118·0	90·0	103
0·15	37/ ·072	152·0	126·0	105·0	112
0·2	37/ ·083	184·0	149·0	126·0	123
0·25	37/ ·093	214·0	170·0	146·0	132
0·3	37/ ·103	240·0	188·0	—	145
0·4	61/ ·093	288·0	220·0	—	162
0·5	61/ ·103	332·0	249·0	—	172
0·6	91/ ·093	384·0	—	—	181
0·75	91/ ·103	461·0	—	—	185
0·85	127/ ·093	512·0	—	—	190
1·0	127/ ·103	595·0	—	—	200

Dimensions of Cable

RUBBER-INSULATED

Conductors		Dielectric	Braided Cables	Braided and Armoured Cables			Lead-covered Cables		Lead-covered and Armoured Cables		
Nominal Area (1)	Overall Diameter (2)	Thickness (3)	Overall Diameter (4)	Diameter of Armouring Wire (5)	Diameter over Armour (6)	Diameter over Armour and Braiding (7)	Thickness of Lead (8)	Diameter over Lead (9)	Diameter of Armouring Wire (10)	Diameter over Armour (11)	Diameter over Armour and Braiding (12)
Sq. in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
0·0010	0·036	0·034	0·165	0·064	0·328	0·418	0·040	0·200	0·064	0·408	0·498
0·0015	0·044	0·034	0·173	0·064	0·336	0·426	0·040	0·208	0·064	0·416	0·506
0·0020	0·062	0·036	0·195	0·064	0·358	0·448	0·040	0·230	0·064	0·438	0·528
0·0030	0·078	0·038	0·215	0·064	0·378	0·468	0·040	0·250	0·064	0·458	0·548
0·0030	0·064	0·036	0·197	0·064	0·360	0·450	0·040	0·232	0·064	0·440	0·530
0·0045	0·087	0·039	0·226	0·064	0·389	0·479	0·040	0·261	0·064	0·469	0·559
0·0070	0·108	0·041	0·259	0·064	0·422	0·512	0·050	0·314	0·064	0·522	0·612
0·0100	0·132	0·043	0·287	0·064	0·450	0·540	0·050	0·342	0·064	0·550	0·640
0·0145	0·156	0·046	0·317	0·064	0·480	0·570	0·060	0·392	0·064	0·600	0·690
0·0225	0·192	0·049	0·359	0·064	0·522	0·612	0·060	0·434	0·072	0·698	0·788
0·0300	0·220	0·052	0·393	0·064	0·556	0·646	0·060	0·468	0·072	0·732	0·822
0·0400	0·260	0·056	0·441	0·064	0·604	0·649	0·060	0·516	0·072	0·780	0·870
0·0600	0·320	0·062	0·513	0·072	0·732	0·822	0·070	0·608	0·072	0·872	0·962
0·0750	0·360	0·066	0·596	0·072	0·780	0·870	0·070	0·656	0·072	0·920	1·010
0·1000	0·415	0·072	0·663	0·072	0·847	0·937	0·070	0·732	0·072	0·987	1·077
0·1200	0·448	0·075	0·702	0·072	0·886	0·976	0·070	0·762	0·072	1·026	1.116
0·1500	0·504	0·080	0·768	0·072	0·952	1·042	0·080	0·848	0·080	1·208	1·298
0·2000	0·581	0·088	0·889	0·072	1·053	1·143	0·080	0·949	0·080	1·309	1·399
0·2500	0·651	0·095	0·973	0·080	1·233	1·353	0·090	0·053	0·104	1·461	1·581
0·3000	0·721	0·102	1·057	0·080	1·317	1·437	0·090	1·137	0·104	1·545	1·665
0·4000	0·837	0·114	1·197	0·104	1·505	1·625	0·100	1·297	0·104	1·705	1·825
0·5000	0·927	0·121	1·301	0·104	1·609	1·729	0·110	1·421	0·128	1·877	1·997
0·6000	1·023	0·125	1·425	0·128	1·761	1·881	0·110	1·525	0·128	1·981	2·101
0·7500	1·133	0·131	1·547	0·128	1·883	2·003	0·120	1·667	0·160	2·187	2·307
0·8500	1·209	0·135	1·631	0·128	1·967	2·087	0·120	1·751	0·160	2·271	2·391
1·0000	1·339	0·141	1·773	0·128	2·173	2·293	0·120	1·893	0·160	2·413	2·533

APPROXIMATE WEIGHT OF ONE CUBIC INCH OF METALS

	Lbs.		Lbs.
Platinum	0.78	Nickel	0.31
Gold	0.69	Wrought Iron	0.28
Mercury	0.49	Steel	0.28
Lead	0.41	Cast Iron	0.26
Silver	0.36	Tin	0.26
Bismuth	0.35	Zinc	0.26
Copper	0.32	Antimony	0.24
Brass	0.31	Aluminium	0.097

IMPERIAL WIRE GAUGE with EQUIVALENT in INCHES and MILLIMETRES

Imperial Wire Gauge	Equivalent Diameter inches	Equivalent Diameter millimetre	Imperial Wire Gauge	Equivalent Diameter inches	Equivalent Diameter millimetre	Imperial Wire Gauge	Equivalent Diameter inches	Equivalent Diameter millimetre	Imperial Wire Gauge	Equivalent Diameter inches	Equivalent Diameter millimetre
1	·300	7·620	11	·116	2·944	21	·032	·8124	31	·0116	·2800
2	·276	7·010	12	·104	2·641	22	·028	·7109	32	·0108	·2743
3	·252	6·400	13	·092	2·336	23	·024	·6093	33	·0100	·2539
4	·232	5·892	14	·080	2·032	24	·022	·5585	34	·0092	·2300
5	·212	5·384	15	·072	1·328	25	·020	·5078	35	·0084	·2031
6	·192	4·876	16	·064	1·625	26	·018	·4570	36	·0076	·1777
7	·176	4·470	17	·056	1·421	27	·0164	·4062	37	·0068	·1727
8	·160	4·064	18	·048	1·218	28	·0148	·3555	38	·0060	·1523
9	·144	3·657	19	·040	1·016	29	·0136	·3300	39	·0052	·1269
10	·128	3·251	20	·036	·914	30	·0124	·3046	40	·0048	·1219

DECIMAL EQUIVALENTS to FRACTIONS of an INCH

·015625 = $\frac{1}{64}$″
·03125 = $\frac{1}{32}$″
·046875 = $\frac{3}{64}$″
·0625 = $\frac{1}{16}$″
·078125 = $\frac{5}{64}$″
·09375 = $\frac{3}{32}$″
·109375 = $\frac{7}{64}$″
·125 = $\frac{1}{8}$″
·140625 = $\frac{9}{64}$″
·15625 = $\frac{5}{32}$″
·171875 = $\frac{11}{64}$″
·1875 = $\frac{3}{16}$″
·203125 = $\frac{13}{64}$″
·21875 = $\frac{7}{32}$″
·234375 = $\frac{15}{64}$″
·25 = $\frac{1}{4}$″

·265625 = $\frac{17}{64}$″
·28125 = $\frac{9}{32}$″
·296875 = $\frac{19}{64}$″
·3125 = $\frac{5}{16}$″
·328125 = $\frac{21}{64}$″
·34375 = $\frac{11}{32}$″
·359375 = $\frac{23}{64}$″
·375 = $\frac{3}{8}$″
·390652 = $\frac{25}{64}$″
·40625 = $\frac{13}{32}$″
·421875 = $\frac{27}{64}$″
·4375 = $\frac{7}{16}$″
·453125 = $\frac{29}{64}$″
·46875 = $\frac{15}{32}$″
·484375 = $\frac{31}{64}$″
·5 = $\frac{1}{2}$″

·515625 = $\frac{33}{64}$″
·53125 = $\frac{17}{32}$″
·546875 = $\frac{35}{64}$″
·5625 = $\frac{9}{16}$″
·578125 = $\frac{37}{64}$″
·59375 = $\frac{19}{32}$″
·609375 = $\frac{39}{64}$″
·625 = $\frac{5}{8}$″
·640625 = $\frac{41}{64}$″
·65625 = $\frac{21}{32}$″
·671875 = $\frac{43}{64}$″
·6875 = $\frac{11}{16}$″
·703125 = $\frac{45}{64}$″
·71875 = $\frac{23}{32}$″
·734375 = $\frac{47}{64}$″
·75 = $\frac{3}{4}$″

·765625 = $\frac{49}{64}$″
·78125 = $\frac{25}{32}$″
·796875 = $\frac{51}{64}$″
·8125 = $\frac{13}{16}$″
·828125 = $\frac{53}{64}$″
·84375 = $\frac{27}{32}$″
·859375 = $\frac{55}{64}$″
·875 = $\frac{7}{8}$″
·890625 = $\frac{57}{64}$″
·90625 = $\frac{29}{32}$″
·921875 = $\frac{59}{64}$″
·9375 = $\frac{15}{16}$″
·953125 = $\frac{61}{64}$″
·96875 = $\frac{31}{32}$″
·984375 = $\frac{63}{64}$″
1·0 = 1″

ROUND COPPER WIRE

Weight in lb. per 1,000 feet

Number	S.W.G.		Number	S.W.G.		Number	S.W.G.	
	Diameter in inches	Weight per 1,000 ft.		Diameter in inches	Weight per 1,000 ft.		Diameter in inches	Wright per 1,000 ft.
0000000	·500	756·7	10	·128	49·58	26	·018	0·9805
000000	·464	651·6	11	·116	40·72	27	·0164	·8139
00000	·432	564·7	12	·104	32·74	28	·0148	·6629
0000	·400	484·1	13	·092	25·61	29	·0136	·5597
000	·372	418·8	14	·080	19·37	30	·0124	·4653
00	·348	366·5	15	·072	15·69	31	·0116	·4071
0	·324	317·7	16	·064	12·40	32	·0108	·3529
1	·300	272·4	17	·056	9·492	33	·0100	·3026
2	·276	230·5	18	·048	6·972	34	·0092	·2561
3	·252	192·2	19	·040	4·841	35	·0084	·2135
4	·232	162·9	20	·036	3·922	36	·0076	·1748
5	·212	136·0	21	·032	3·099	37	·0068	·1399
6	·192	111·6	22	·028	2·373	38	·0060	·1090
7	·176	93·74	23	·024	1·743	39	·0052	·08183
8	·160	77·47	24	·022	1·465	40	·0048	·06972
9	·144	62·76	25	·020	1·211			

WEIGHTS AND MEASURES

AVOIRDUPOIS WEIGHT

Dram = 1·177 grammes.
Ounce (16 dr.) = 28·349 grammes.
Pound (16 oz.) = 0·453 kilogrammes.
Quarter (28-lbs.) = 12·695 kilogrammes.
Hundredweight (112-lbs.) = 50·802 kilogrammes.
Ton (20 cwt.) = 1016·048 kilogrammes.

LINEAR MEASURE

Millimetre ($\frac{1}{1000}$ M.) = 0·039-in.
Centimetre ($\frac{1}{100}$ M.) = 0·393-in.
Decimetre ($\frac{1}{10}$ M.) = 3·937-in.
Metre = 39.3704-in. = 3·28089-ft.
Decametre (10 M.) = 32·8089-ft.
Hectometre (100 M.) = 328·089-ft. = 109·36-yds.
Kilometre (1000 M.) = 1093·633-yds. = ·62138 mile.
Myriametre (10,000 M.) = 6·213 miles.
1 Inch = 2·5399 centimetres.
1 Foot = 30·479 metres.
3 Feet (1 yard) = 0·9143 metres.
1 Fathom (2 yards) = 1·828 metres.
1 Pole ($5\frac{1}{2}$ yards) = 5·0291 metres.
1 Furlong (220 yards) = 201·164 metres.
1 Mile (1,760 yards) = 1609·314 metres, or 1·609 kilometres.

SUPERFICIAL MEASURE

Square inch = 6·4513 square centimetres.
Square foot = 0·0929 metre.
Square yard = 0·836 metre = ·00836 are.
Rod = 25·291 Metres.
Rood (1,210 sq. yds.) = 10·116 ares.
Acre (4,840 sq. yds.) = 40·467 ares.
Square mile = 2·588 square kilometres.
1 Square Centimetre = ·155 sq. in.
1 Square Metre = 10·7640 sq. ft.
1 Are = 119·6033 sq. yds.
1 Hectare = 2·47114 acres = ·00386 sq. mile.

SOLID MEASURE

Cubic inch = 16·386 cubic centimetres.
Cubic foot = 0·0283 metre.
Cubic yard = 0·7645 metre.
1 Cubic centimetre = ·06102 cubic inch.
1 Cubic metre = 3·5316 cubic ft. = 1·308 cubic yds.

CAPACITY

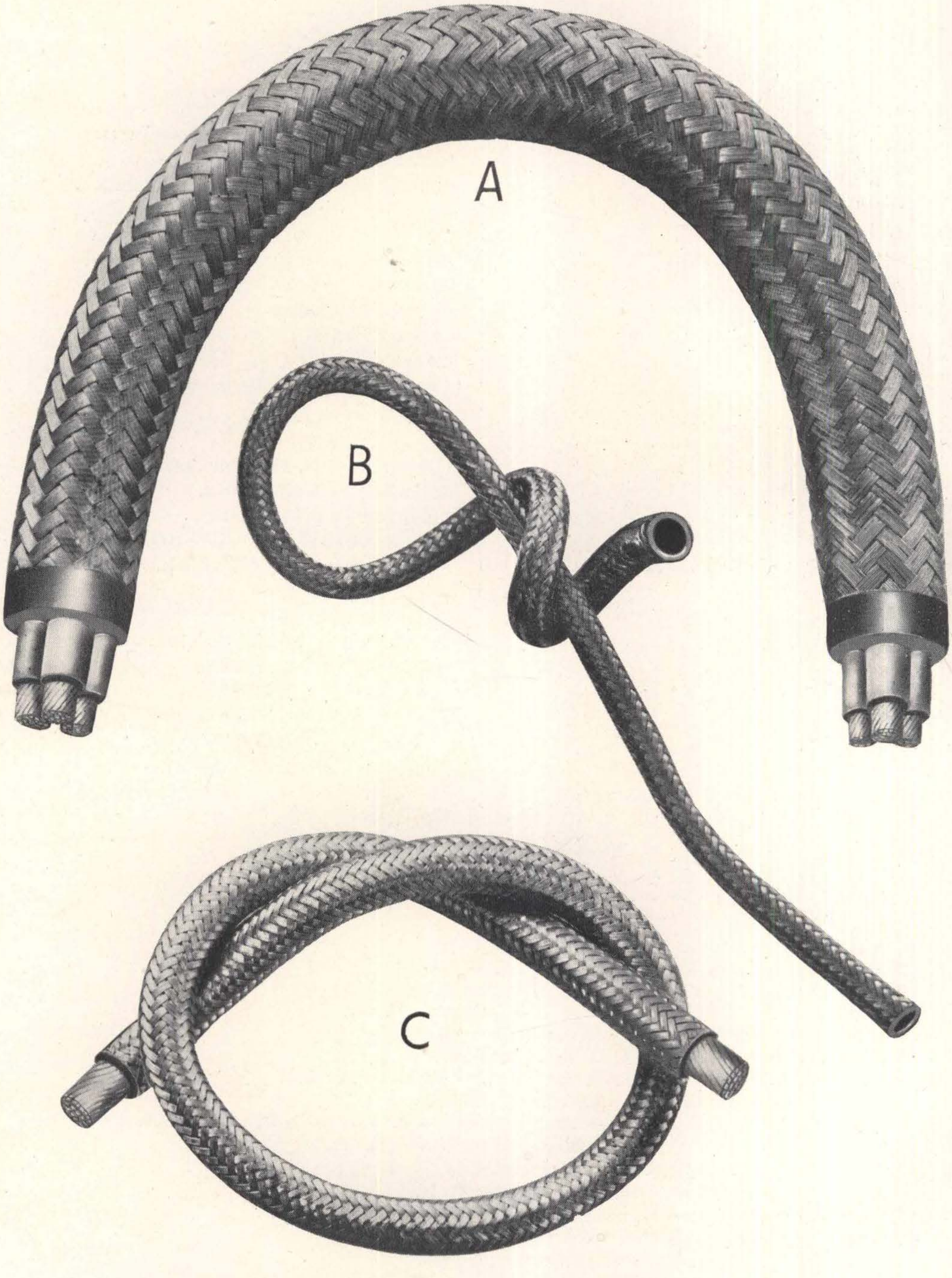
1 Cubic inch = 16·3861 millilitre.
1 Gill = ·14198 litre.
1 Pint = ·56824 litre.
1 Quart = 1·13648 litres.
1 Gallon = 4·54592 litres.
1 Millilitre = ·06102 cubic in.
1 Litre = 1·7598 pints = ·2199 gallon.

USEFUL INFORMATION

$$\left.\begin{array}{ll}\text{The unit of current is the Ampere} & \text{(C)}\\ \text{The unit of pressure is the Volt} & \text{(E)}\\ \text{The unit of resistance is the Ohm} & \text{(R)}\end{array}\right\} C = \frac{E}{R}$$

The unit of Power is the Watt. = C × E = Amperes × Volts.
746 Watts = 1 Horse Power = 33,000 foot/lbs. per unit.
1 H.P. English = 1·01385 H.P. French (Force de cheval).
1 H.P. French = 4,500 Kilogrammes per minute = ·9863 H.P. English.
The Larger unit of power is the Kilowatt = 1,000 Watts.
The Board of Trade unit (B.T.U.) = 1 Kilowatt hour = 1,000 Watt hours = 1·34 H.P. hours.
1 Watt = ·00134 Horse Power. Kilowatt = 1·34 Horse Power.
1 Gallon of Water = 10-lb. = 0·1605 cubic foot.
The pressure of one Atmosphere = 14·7-lb. per sq. in.
Circumference of Circle = diameter × 3·1416.
Diameter of Circle = circumference × ·31831.
Area of Circle = diameter squared × ·7854.
Diameter of Circle = square root of area × 1·12837.
Area of Ellipse = long axis × short axis × ·7854.
Area of Triangle = base × $\frac{1}{2}$ perpendicular height.
Diameter of Circle × ·8862 = side of an equal square (equal area).
Side of Square × 1·1283 = diameter of an equal circle (equal area).
Surface of a Cylinder = area of both ends + (length × circumference).
Surface of a Cone = area of base × $\frac{1}{2}$ (slant height × circumference of base).
Surface of Sphere = diameter 2 × 3·1416.
Contents of a Cylinder = area of one end × length.
Contents of a Cone = area of base × $\frac{1}{3}$ perpendicular height.
Contents of a Sphere = diameter cubed × ·5236.

Wire Braiding in All Metals



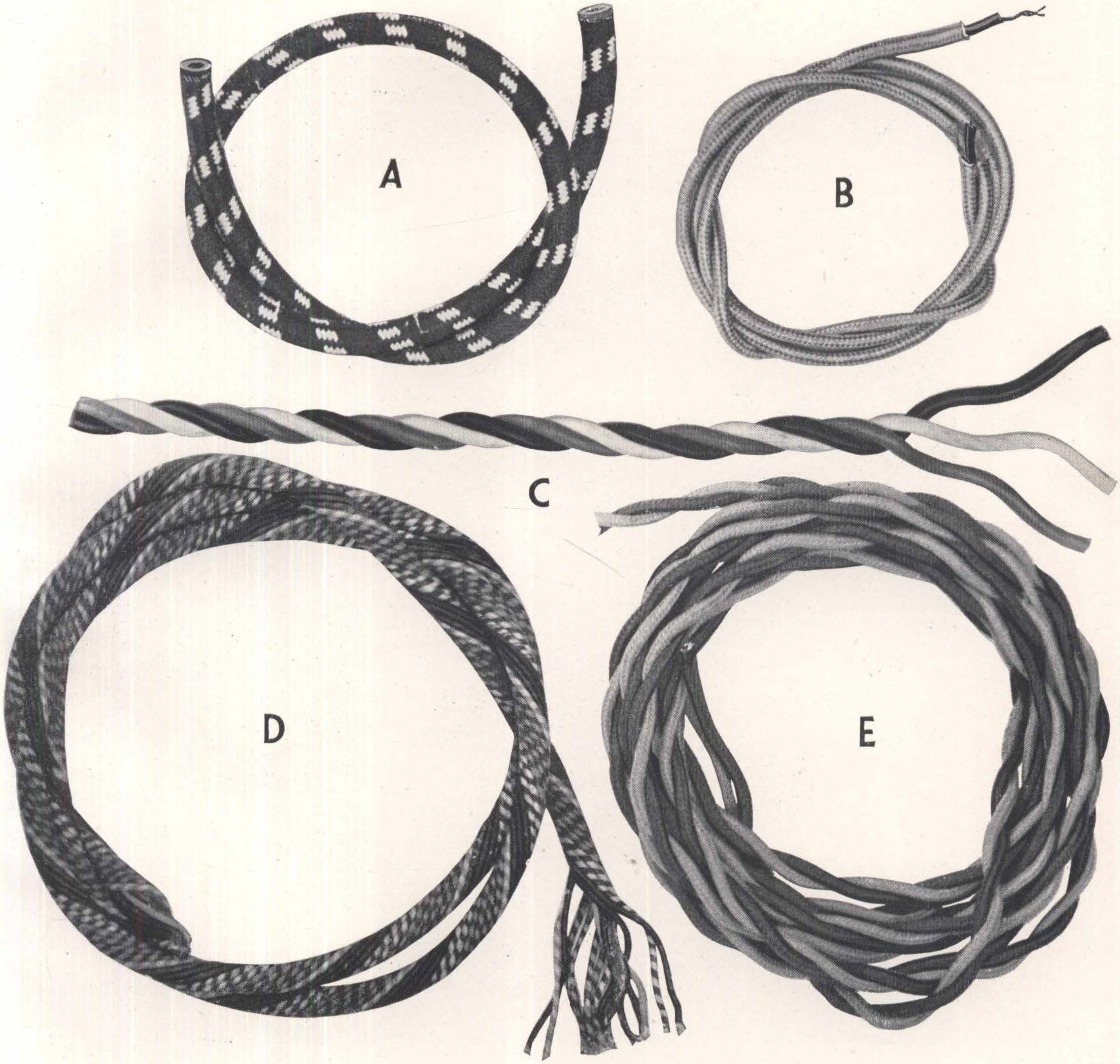
A. 3-core Rubber Covered Electric Cable, with multiple wire braided sheath.
B. Wire Braided, Rubber lined Pressure Tubing.
C. Multi-strand, single core, wire braided Electric Trailing Cable.

Advantages :

1. Protection. 2. Flexibility with safety. 3. Reduced diameter. 4. Lightness (Shipbuilding).
5. Ease in handling. 6. Less risk of fracture than with Lead Sheathed Cable.

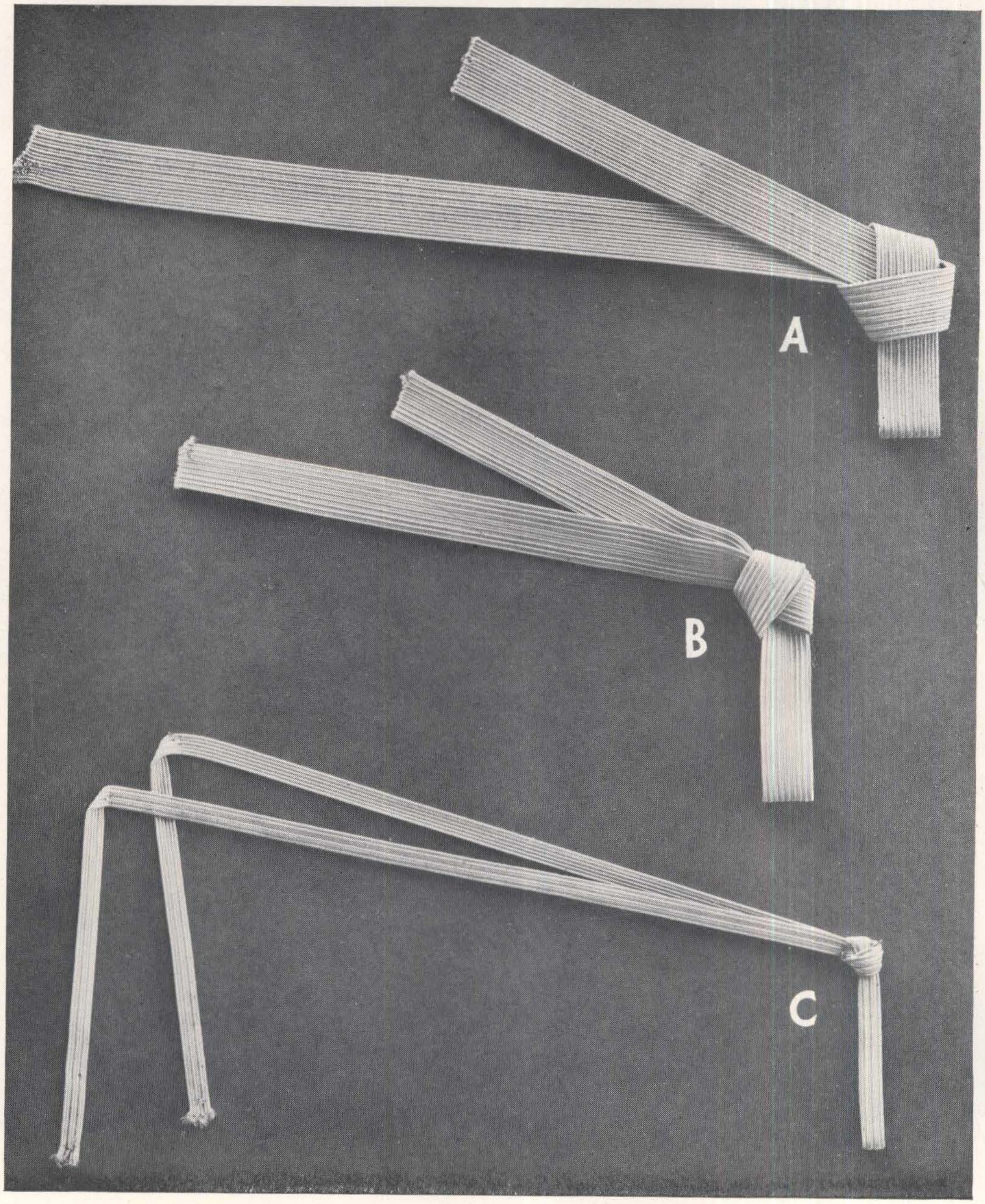
These Cables are found very satisfactory when used for transmission to serve the electrical equipment on all types of machines.

Photographs of Actual Products



A. Braided Pump Connector Tubing.
B. Silk Braided Flexible Cable.
C. 3-Strand P.V.C. Covered Wire.
D. 15-Strand Telephone or communication cable, made up of waxed cotton covered conductors.
E. Twined Flexible Lighting Cable.

Photographs are approximately full size.



A. 10's Braided Elastic.   B. 8's Braided Elastic.   C. 6's Braided Elastic.

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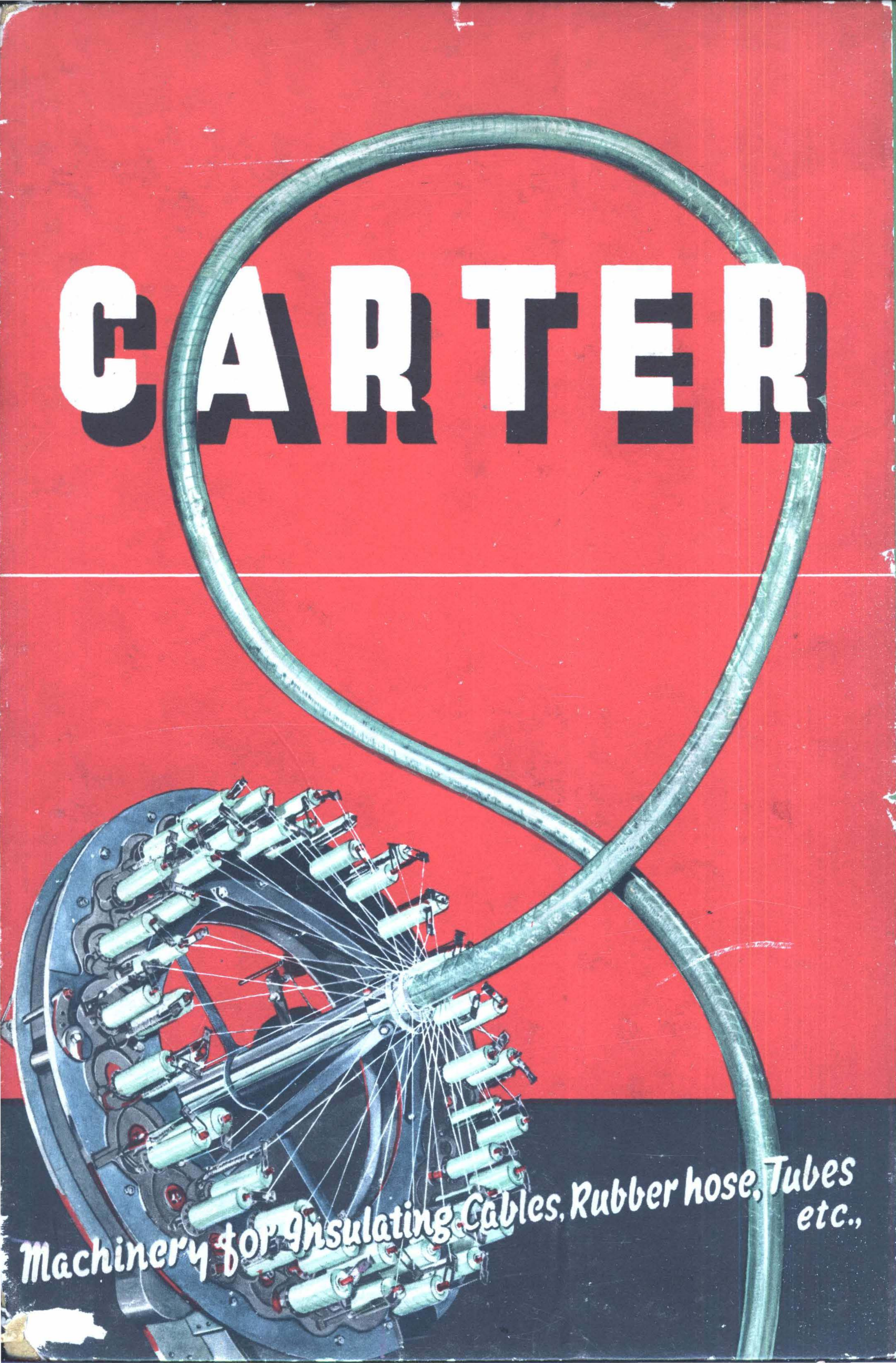
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